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*[Board of Supervisors]*

ZOO ADVISORY COMMITTEE

ANIMAL CARE SUBCOMMITTEE

1/25/90

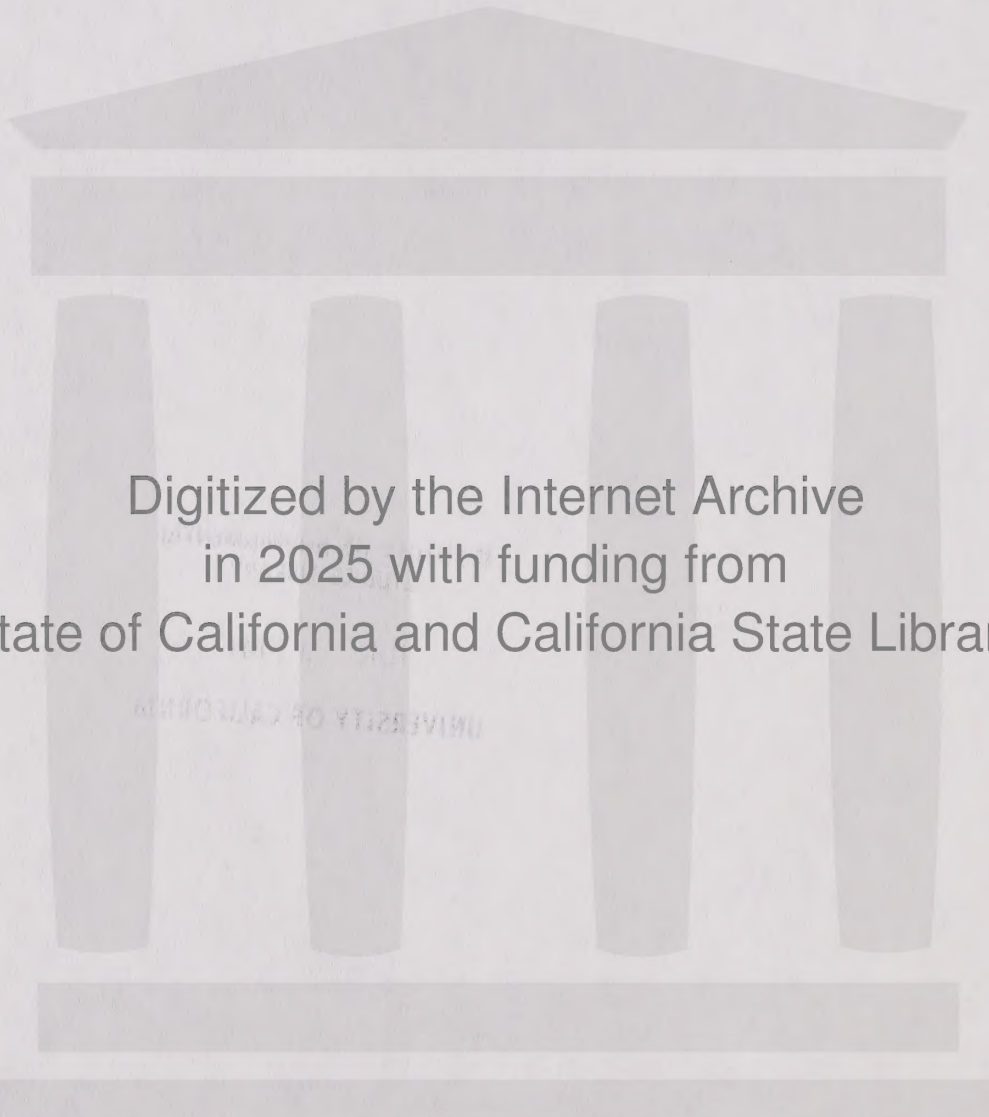
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FINAL DRAFT 1988 RS

ZOO ADVISORY COMMITTEE

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## ANIMAL CARE SUBCOMMITTEE

FINAL DRAFT 1/25/90

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# GENERAL CASE BY ACCOUNT

GENERAL CASE BY ACCOUNT

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## I. INTRODUCTION

The members of this subcommittee undertook the task of viewing approximately 90% of the animal exhibits at the San Francisco Zoo(SFZ). We visited the behind-the-scenes areas as well as the "public viewing" facilities in order to understand where and how the animals "live" here.

We met with the keepers from the various areas, referred to as 'strings', at each subcommittee meeting and they in turn toured us through their work areas and communicated their problems and successes to us. We also held meetings with the senior management personnel of the zoo. Senior keepers did not welcome us whatsoever and refused to talk with us, but we had meetings with the curators and assistant head keeper.

We are currently well informed on the issues and concerns that the staff has in the maintenance of the animals in their care. The following presentation is designed to enable the Board of Supervisors to integrate our overall committee recommendations into a resolution(s) which will resolve existing problems at the SFZ.

The history of the world is a story of the struggle for power. It is a story of the rise and fall of empires, of the triumph and defeat of nations. It is a story of the human race, of its hopes and dreams, of its joys and sorrows. It is a story of the world as it is, and of the world as it should be.

We live in a world of change and uncertainty. The world is a place of constant flux, of endless possibilities. It is a world of opportunity and challenge, of risk and reward. It is a world of hope and despair, of light and shadow. It is a world of the unknown, of the uncharted, of the unexplored.

It is our duty to understand the world, to know its secrets and its mysteries. It is our duty to seek the truth, to uncover the hidden, to reveal the unknown. It is our duty to strive for the better, to create a world of peace and harmony, of justice and equality.



## II. PURPOSE & OVERVIEW

Our task was to investigate and recommend the best combination of solutions for the daily and long term care and management of the SFZ animals. In many of our recommendations we are addressing the issue of exhibiting animals which are not endangered/threatened and are currently housed at this zoo. In this decade of increased conservation efforts undertaken by zoos, it is critical for us to discuss the SFZ's efforts towards utilizing limited space in exhibiting endangered species.

Through meetings and interview tours with the keepers and management staff we targeted the following issues for our report:

- Breeding and group management
- Animal Records
- Exhibits
- Safety and security for both the animals, staff and public
- Employee/Management relations with respect to animal care
- Daily and long term veterinary services

These criteria were considered and noted, during our investigations, in worksheets by animal species and by enclosure. This report will discuss common concerns addressed by the SFZ staff from all the areas and will reference the completed worksheets for each animal area attached at the end of this document. Please refer to the worksheets in order to fully understand the comments in the report if necessary.

Bear in mind that these are recommendations we are addressing as the Animal Care Subcommittee of the Zoo Advisory Task Force convened under the direction of the Board of Supervisors of San Francisco. The issues noted are of primary concern, and this subcommittee feels strongly that action be taken to correct problems reported. In many cases alternative solutions are included as recommendations in this report.

It is a well-known fact that the medical profession has been the subject of much criticism and attack in recent years. This is due to many causes, but one of the principal ones is the fact that the medical profession has been slow to adapt itself to the changes in the social and economic conditions of the country. The medical profession has been slow to recognize the fact that the patient is no longer a passive recipient of treatment, but an active participant in the medical process. This has led to a feeling of dissatisfaction on the part of the public, and has resulted in a loss of confidence in the medical profession.

It is the duty of the medical profession to recognize these changes and to adapt itself to them. This can be done by adopting a more scientific and systematic approach to the study of medicine, and by recognizing the fact that the patient is an individual, and not a mere case.

### THE MEDICAL PROFESSION AND THE PUBLIC

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### **III. ISSUES OF CONCERN AND GENERAL RECOMMENDATIONS**

#### **A. MAMMALS**

1. Breeding Management
2. Species - Individual & Group Management
3. Animal Dispositions
4. Stagnant/Mundane Exhibits
5. Inappropriate Exhibits for Species (so that animal cannot approximate normal functions)
6. Record Maintenance

#### **B. BIRDS**

1. Breeding Management & Species - Individual & Group Management
2. Animal Dispositions
3. Stagnant/Mundane Exhibits
4. Inappropriate Exhibits for Species (so that animal cannot approximate normal functions)
5. Record Maintenance

#### **OVERALL ISSUES INCLUDED IN ABOVE DISCUSSIONS**

1. Animal Conservation & Animal Management Ethics
2. Diets
3. Incorporation of Animal's Natural History





## GENERAL RECOMMENDATIONS

### CURATORS MUST:

1. Be required to fulfill their current job description and must be held accountable when they fail to do so.
2. Manage the current collection with the animals' natural history and behavior considered. This includes upgrading the animal habitats to reflect natural behavior and animal's social needs before acquiring new animal species.
3. Conscientiously consider worldwide conservation efforts when obtaining/breeding animals for collection enhancement.
4. Cooperate with the vast scientific resources within our community to enhance their management of the animal collection.
5. Organize and maintain diet records for the species complete with updates and changes. Develop food preparation programs appropriate for each species which approximates their natural feeding habits, breeding needs and cyclical fluctuations.
6. Establish a protocol on the ethical disposition of live and dead animals.
7. Compile daily string animal moves, safety and emergency protocols (including earthquake) to be drafted and submitted to Board of Supervisors no later than March 1, 1990 (daily string protocol to include, but not be limited to, number of animals in exhibit, sex ratio, diet, type of animal, birth dates, list in order of daily chores, order of moving animals in and out of exhibit, any peculiarities of individual animals, etc.). (Daily string protocols and animal information to be posted at each string.) It should be noted that the curator of mammals states in his attached rebuttal that these protocols exist; however, the subcommittee never saw this while we toured the facilities.

MOST CRITICAL IS AN EXCELLENT HANDS-ON DIRECTOR WHO WILL BE A POLITICAL LEADER AND SPOKESPERSON FOR THE ZOO. ONE WHO WILL HOLD ALL STAFF ACCOUNTABLE AND WHO WILL PROMOTE ETHICAL ANIMAL MANAGEMENT AND WILL STIMULATE THE PEOPLE OF SAN FRANCISCO TO BECOME INTERESTED AND SUPPORTIVE OF THE CONSERVATION INTERESTS OF THE ZOO.



## IV. COLLECTION MANAGEMENT

### A. Curator of Mammals

#### 1. Breeding Management

There needs to be better organization in the breeding and management of the animal collection. Some of the problems are continued breeding of animals already at a maximum carrying capacity at the zoo; inbreeding (allowing animals of a like gene pool to continue breeding, i.e. daughters to fathers, etc.) of species; lack of sufficient outbreeding (culling--refers to the process of selecting and removing herd members, not necessarily killing animals as indicated by the curator of mammals; rotating breeding animals to increase gene variation); disposition of surplus stock, and improperly housing certain animals together.

Animals are allowed to breed to the point of inbreeding without a necessary and effective outbreeding program. The result is animals born with abnormalities. This situation is particularly evident in the axis deer, waterbuck and lemur exhibits. While the curator indicates that 16 surplus waterbuck (see attachment #1) were placed between 1978-1988, he fails to recognize that the production of so many surplus animals indicates improper herd management. The lemurs have been allowed to inbreed. One offspring was born with gross facial abnormalities including no eye. The current curator defends a father-daughter animal breeding as a common breeding practice called line breeding. In fact, line breeding is breeding animals for a predetermined specific trait commonly practiced in domesticated animals (i.e. dogs, livestock) but not a practice with primates. The curator also claims that the parents of this deformed offspring were unrelated (see attachment #2). However, the birth record does not identify a sire nor a dam for this animal. While toxoplasmosis has been cited as a possible cause for some deformities, in these animals toxoplasmosis was not identified for over a year after this malformed birth. Axis deer have produced stillborns which resemble kangaroos. While the curator cites a higher than national average reproductive rate as justification for his management of this herd, we wish to make it clear that while we do not question the ability of these animals to reproduce, we are concerned with the number of abnormal and still births. It should be noted that the statistics provided by the curator do not indicate an age breakdown of the axis deer (i.e. adults, juveniles, babies). It is important to maintain breeding records on the animals, cull the stock which is currently inbred, and establish a culling program so as to maintain healthy animal stock and rotate breeding animals through the exhibit.

The zoo continually allows animals to reproduce which are already surplus species nationally. One example is the mountain lion. The last litter was a result of the failure of the curator to either acknowledge or take into consideration the normal breeding behavior of mountain lions, which naturally results in propagation. They bred and gave birth to two cubs in 1988. The cubs have grown rapidly and the zoo will need to place these animals in a new exhibit, which does not exist, or ship them to another facility. Mountain lions are a surplus animal on the market, so it will be difficult to find a facility capable of housing them. Obviously, zoo management failed to consider housing and spatial needs of such offspring. The curator cites that





the keepers did not tell him that the animals bred, but because the male and female share an enclosure, they are not restricted in mating during the hours the keepers are not at the zoo.

### **Recommendation:**

That the zoo be encouraged to concentrate on breeding species which fall into the endangered and threatened categories, because appropriate placing young of endangered species is generally possible. There are some very good endangered breeding species programs at the zoo (Persian leopards, snow leopards, gorillas, black rhino). In reference to this, the curator stated that "...animals that are not now (classified as) threatened or endangered may become so (if not bred in zoos)..". This quote indicates the need for the curator staff to be improved. The condition of a species classified as endangered/threatened depends on its population status in its natural habitat, and not its status in captivity as is believed by the current curator.

## **2. Group Management**

Some incidents of gross negligence on this level are indicated below.

### **a. Colobus Colony**

These animals originated from a healthy breeding group here at the SFZ. The keeper in charge of these primates turned over approximately two dozen animals for exhibit IN the Primate Discovery Center (PDC). Prior to being placed in the PDC, seven animals died. The zoo had a successful breeding colony of Colobus prior to the opening of the PDC; yet, they chose to capture additional animals from the wild. They then attempted to introduce these wild caught animals to the SFZ group against the advice of experts and the natural social structuring of this species. This resulted in injuries, the degradation of the two groups of animals which ultimately led to numerous animal losses.

In this situation animals were unnecessarily brought in from the wild, which led to the demise of both a successful captive breeding group and further depletion of wild animal species. Additionally, a simple mechanism by which to introduce "new blood/genes" in these social matriarchal primates is by introducing one new male, and not to attempt to integrate two complex social structures per nationally renown experts.

### **b. Bushbaby**

Again, the current curator of mammals did not investigate thoroughly the natural history of these animals. They have a complex social structure in which females maintain strict territory boundaries and the males leave the mothers at puberty. The daughters remain with the mothers and form a close family group. The highly territorial aspect of this group was ignored when establishing this colony for the PDC. The animals, unrelated, were placed in the exhibit together only to fight among themselves and kill, injure and weaken one another until they all died.



This depicts a needless loss of animal life through the inabilities of the curator of mammals to properly manage the zoo species.

**Recommendation:**

1. Again, curators must refer to the animals' natural social structure.
2. Listen to the advice of experts, (i.e. person(s) with successful exotic captive animal management track record(s)).

**c. Gorillas**

The introduction of the young gorilla, Binti Jua, is not proceeding with the best intentions for the family group. The management has approached this introduction by virtually keeping the leaders of the group from interacting with Binti. In the research investigations of renown scientists, the leader of the family is one of the first to welcome a newborn into the group ( The Year of the Gorilla by Geo. Schaller). Once the leaders have accepted the new animal, it naturally follows that the remainder of the group will accept the animal as well. The current situation ignores the natural behavior of these family oriented animals, creating a tense and unnatural situation. Binti is denied complete integration with a family she can see (through the caging), but with which she cannot fully interact, because the gorilla group leaders cannot fully welcome her as they would naturally do in the wild.

In previous situations the zoo has successfully raised young and integrated them into the family group, but it was accomplished in a timely manner and the youngsters existed as peers having one another with whom to interact. Binti Jua is alone much of the time and without the interaction of conspecifics.

**Recommendation:**

1. Binti Jua should be transferred to a facility where she will be integrated into the family group and where she may live out most of her life.
2. Binti Jua is related to the breeding males here at our zoo and should not have been brought here if she could not have been introduced into the group properly.
3. If she is not placed in another zoo, then she needs to be fully integrated into our zoo's gorilla group immediately.

**3. Animal Dispositions**

Concern also exists as to the disposition of surplus animals (i.e. to whom such animals are sold/given). The keeper staff often feels that animals are sold to animal dealers and transported to shooting game ranches. There have been recently televised news programs on such issues concerning our zoo (60 Minutes 1/21/90 and the KPIX special from winter '89). The zoo has been known to sell animal stock to such dealers who in turn have been known to sell to shooting ranches. As stated in 60 Minutes, even clauses in animal disposition forms do not fully protect animals from going to shooting ranches as noted in a memo from the USDA to the San





Diego Zoo regarding San Diego Zoo animals sold to a dealer with a disposition form containing this clause. This is not an ethical manner by which to dispose of our surplus animals.

Another issue is the disposition of animals after their death. Many specimens would be useful to natural history museums and our own zoo education programs.

**Recommendation:**

While a policy recently was rewritten towards this goal, it is again important to monitor the disposition of animals and animal remains from the zoo with reputable institutions (universities, museums, zoo's education department).

**4. Stagnant/Mundane Exhibits**

Many of the enclosures at the zoo should be modified so that the animals have a more stimulating environment in which to live. Some of the most glaring examples of exhibits which fail to enhance animal activity are: those of the aquatic carnivores, the sun bear, the hippos, monkey island, and the terrace exhibits of the PDC. This is a function which clearly falls within the jurisdiction of the curator.

**RIVER OTTERS:** While the zoo has accommodated additional aquatic species, for years the river otters have been ignored. These animals are intelligent and active. The exhibit offers them no outlet other than constantly swimming in circles.

**Recommendation:**

Simple log structures can be placed in the exhibit along with a few Boomer Balls (special balls for exotic animal use) to enhance and give the exhibit some dimension.

**HIPPOS:** The hippos could easily have a larger pool and exhibit more 'hippo behavior' for their own and the visitors' enjoyment.

**Recommendation:**

The island in the pool ought to be removed. This would increase their pool size and give them the opportunity to move through a larger body of water. They do not use the island surface and have plenty of space at the pool's edge to haul out and lay down.

**SMALL CAT STRING:** Naturally, cats lounge and do nothing for approximately 20-22 hours a day, but because of public pressure and a failure of the SFZ to educate the public on such natural behavior, the small cat area is slotted as one of the first areas to be renovated as part of ZOO 2000 NOW. We suggest that the following recommendations be included in the current exhibits and definitely incorporated in any new small cat exhibits. Additionally, if these enclosures will not



be used for the cats, they should be maintained for off exhibit holding facilities. The following recommendations would still need to be incorporated.

**Recommendation:**

1. Install a number of different perching/climbing areas for their use.
2. Cats should be housed on a more natural surface and have their enclosures enhanced with foliage and scratching posts.
3. Create den areas where they can recede from the constant gaze of the public and which are climate controlled. The current curator does not consider climate control an issue here, but the subcommittee feels that the animals must be protected in inclement weather.
4. Toys, such as Boomer Balls, should be placed in the exhibit to stimulate exercise.
5. Upgrade/replace the caging which is deteriorating.

PRIMATE DISCOVERY CENTER: All cage areas of the PDC must be enhanced.

**Recommendation:**

1. The animals need better climbing and swinging structures in their enclosures.
2. These are highly arboreal (living in the trees) primates and their behavior could become apparent with cooperative brainstorming by the keepers and management.

AXIS DEER: Another interesting point is the axis deer. Up until recently, these animals created their own stimulating environment by jumping out of their enclosure at night and wandering through the zoo. Generally, they would jump right back in and await the zoo visitors. One problem with this is that the gardeners discovered that the deer were eating their flowers. The real problem stems from overcrowded conditions in the herd resulting from inadequate breeding management. The zoo management added some unbecoming fencing wire to the exhibit to increase the height of the fence. This caused some animal injuries because the animals did not realize that the fence had been heightened. Treated differently this could be a educational exhibit.

**Recommendation:**

1. Properly manage the breeding of these animals.
2. When altering exhibits, place consideration on renovating so that the animals' health and safety is not jeopardized.

## **5. Inappropriate Exhibits**

By inappropriate exhibits we mean exhibits which significantly fail to address the species' natural behavior. Two examples of this are Spider Monkey Island and Musk Ox "Meadow". The spider monkeys are highly arboreal with the



unique adaptation of a grasping ('prehensile') tail. Nothing in the exhibit allows them to display this adaptation. Secondly, the musk ox, an animal normally found in the frozen tundra of the Arctic Circle are forced to exist in a semi-swampy meadow at the SFZ. Exhibiting them in this meadow has led to the degradation of their hooves. While the curator feels that a swampy meadow is appropriate for tundra animals, we do not. The curator feels that this is "the most successful group of white-fronted musk ox outside of Alaska in the United States". The following statistics clarifies this issues. The SFZ herd began with 9 animals, has had 18 births to presently net 7 animals.

### **Recommendation:**

Curators must research the various species they exhibit so as to accommodate the natural adaptation of the animals.

## **6. Records Maintenance**

The curators at the zoo are required, under their job description, to assist in organizing and maintaining animal records. We have found little else than inventory and perfunctory animal statistics/identification numbers on file for the animals. There weren't any comprehensive files on the animals' breeding history, nor were we able to identify files discussing critical behavioral problems with the animal species. The file for maintaining tracking of animals on loan to other institutions is only a skeleton of what it ought to be. Also, diet files are not maintained on the animals--at least when we asked we weren't given or shown any files which documented the diets for the mammals. It is important to maintain dietary records on the animals so that you can consider the best diets for the animals by having a historical file on this subject.

### **Recommendation:**

Full-time person hired to maintain records for the zoo. Many facilities are realizing the importance of such a function. This position can maintain records for the curator staff and the veterinary hospital. The City can use the funds saved by not hiring a second veterinarian or an assistant director/general curator for this function.

In addition to the issues mentioned above, there are some extreme problems with hoof care in two species at the SFZ, the giraffe and the musk ox. The giraffes have been on inappropriate substrate and lacking proper attention given to their hoof growth. These animals are fed a diet rich in protein which can contribute to increased hoof growth if an animal possibly has a metabolic disorder. The result is extremely long hooves causing extreme difficulty in the locomotor skills of the animal. Keepers have argued about the rich diet for these animals for quite some time. Also, the curator states that they have been fed a diet exclusively for giraffes for longer than ten years, but according to repeated testimony by the keepers this is not true. Even committee members have seen that the giraffes are fed other foodstuffs, such as alfalfa and acacia browse. In this case the curator is failing to address the needs of an individual animal. The musk ox are housed on a totally inappropriate substrate.





These animals naturally live on the hard Arctic tundra. The tundra contributes to maintaining their hoof integrity by keeping their hooves naturally worn. Here at the zoo, these animals have been placed in a grassy, marsh exhibit suitable for Tule Elk for which it was originally built), not Musk Oxen. Again, we see an example of ignoring the natural history of the animals which leads quickly to a deterioration of the species.

Also, there are quite a few highly social animals living alone at the zoo. This is a critical issue, because if these animals are not in their respective natural society, they begin to exhibit aberrant behavior, in some cases, irreversible. This then hinders their future ability to integrate properly into a 'normal society' should an opportunity be available for placing/socializing them.

The SFZ has had a good record of breeding Mandrills. The former breeding male named Drac, sired many young and was noted for his non-aggressive behavior towards the young. However, the mother and newborn were usually separated from him for 1-2 days so that he could become familiar with the youngster without direct contact. (Note, this is different than the natural behavior of the gorilla, as you will soon read.) The current breeding male did not, at the time of this birth, have the experience of being a proven sire. He is young and not as secure in his leadership. Not long ago a female gave birth to a male offspring. With this new birth the keeper reported it to the curator. The curator in turn ordered the keeper to release the baby and mother into the exhibit with the male. This was clearly the wrong action for the curator to take, because caution, with this primate species in this situation, is important. The sire immediately pursued the mother and baby, snatched the baby from the mother and killed it in full view of the public. Again, a decision was made by the curator without thought to the behavior of the species and as stated by the curator, "...we did not know how he (the sire) would act..." describes a situation which ought to be handled cautiously not frivolously. The female of this species does not allow the adult males to interact with the baby initially upon birth. Again, the natural history of animal was not considered.

#### Recommendation:

1. Current curator must be required to become familiar with the social behavior of these primates.
2. Hold the curator accountable for actions of mismanaging the animal collection.



## B. CURATOR OF BIRDS

### 1. Breeding & Group Management

The indoor aviary is a good facility and meets most of the animal and keeper needs. But the bird collection does not have a theme, or tell a story with respect to exhibiting the animals and promoting public education. Many of the birds exist as lone individuals of their species. Breeding pairs are the exception not the rule. Without breeding pairs the collection cannot flourish. Proven breeding pairs are defined as male-female pairs which have laid fertile eggs, the young have hatched and been parent raised to fledging. In some cases the birds sexes are not known. Although the current bird curator has been on the job nearly three years, only recently has she had some of the birds surgically sexed. The curator refers to paired birds, but does not indicate which are breeding pairs. The collection is a hodge podge of bird species, old and new world. This gives the impression that the curator has taken few steps in moving the collection out of this status and exhibiting breeding pairs. Nor has a comprehensive collection with some sense as to species selected for display by types of birds, distribution of birds, etc. been developed by the curator. From our understanding various bird keepers made efforts to outline plans for the indoor aviary. There was hope that after the aviary fire the collection could be reorganized to depict more of an ecosystem and incorporate reptiles and a mammal species or two. The recommendations made by the keepers to the curator never were implemented. Per the keeping staff, suggestions for improving the other existing displays have not been considered by the curator either. Many of the suggestions would improve the health of these animals. For instance, the water fowl exhibit would improve greatly if a simple recirculating pump structure were implemented. This would also solve the problem of the tapir excrement in the current water fowl pool

There appears to be minimal commitment on the part of the curator to move the collection forward and establish a good living, breeding bird collection. A lot of time is spent on the penguin, (not an endangered species) program only one of the many SFZ bird species and not enough effort given to the larger remainder of the collection. In most zoo institutions of this size the bird curators come to the position with a proven breeding record of various species. In academic institutions breeding records are defined as ...'when a person has managed birds which have reproduced and the young have been parent raised to fledging.' This expertise does not exist here.

The curator notes (see attachment #3) that the Black & White Hornbills are a breeding pair, yet we do not know of any young that these two birds have produced. While the Great curassow did breed, the egg was pulled and the hatchling was hand reared which does not contribute to the curator of establishing a breeding record. We are pleased to report that the flamingos have bred, at least one pair has, and have produced one young. Further, the breeding of the bar-headed geese and Egyptian geese occurred on monkey island and not in the lake as noted by the bird curator in attachment #3. These two species also constructed their own nests according to the keeper and were not provided with nest building materials as indicated in the bird curator's attachment.





The Bali Mynahs have been mismanaged. This species is a SSP (Species Survival Plan, a special program which coordinates breeding efforts of some endangered among many zoos) animal and in the three year tenure of the current curator, the birds were not sexed and properly paired to facilitate the propagation of this endangered species. Recently, the Bali Mynahs were sexed, but the consultant performing the procedure has not determined the sexes of the two individuals yet. Additionally, the enclosure in which they are housed, is a small, unstimulating cage and not enhanced to promote breeding for a pair. This points to the issue of the husbandry practices of the curator. The curator came this position without a background in exotic bird husbandry. Again, we have a problem a curator in place who lacks the proper training and background necessary to successfully manage an avian collection.

Because the Zoo 2000 Master Plan has been placed on hold, we are concerned that the curator is not moving forward with immediate collection concerns. We feel strongly that the birds currently in the Zoo be properly managed before proceeding with long term plans.

One case which requires discussing is that of the Thicknee. This bird was housed in the indoor aviary. When it came time to paint the aviary--during winter--the birds needed to be removed. In early December, the curator instructed the keeper to begin catching the birds and place them in the outdoor aviary to prepare for the painting. These birds were all accustomed to warm, indoor housing. The attached night reports (attachment #4 ) depict the demise of this bird (and others). After it was placed outside in early December, three different keepers, on three separate days noted in their night reports the deterioration of this bird. They each indicated that it did not look well and should have a heat source. The bird finally was taken to the hospital where the bird curator notes it died. According to the medical record (also attached) the bird was euthanized within 24 hours after being placed in the hospital. Many issues concern us here. One, that the curator does not indicate that the bird was euthanized, even though the medical record clearly states that euthanasia was discussed with the curator, and did not die. Two, that any of the indoor aviary birds were placed outdoors during the winter season. To properly acclimate birds to such conditions, they would have to have been placed outdoors at the beginning of summer. Thirdly, when the keepers noted that the bird did not look well over a period of over three weeks, the curator did not have the bird taken to the hospital or placed indoors somewhere.

As a final point, the successful breeding of the Magellanic Penguins was established before the curator took the position with the City. In some instances, the current curator of mammals did request the assistance the Ms. Schofield with respect to the penguin colony, but her position at the time was with the Zoological Society.

#### **Recommendation:**

1. Organize the Bali Mynah breeding program to encourage breeding by sexing the birds and placing them in an appropriate exhibit.



2. Work with the ideas of the keepers in enhancing and organizing the collection. Some of the keepers have quite a numbers of years of experience in exhibiting these types of birds in contrast to the curators' heavy experience/emphasis in raptor species.
3. Bring in water systems experts (i.e. ENARTEC of San Diego) to design and construct a recirculating water pump system for the waterfowl pool and other bird exhibits.
4. Zoo not to acquire any more species until curator establishes proven breeding record.
5. Work on immediate collection concerns in lieu of Zoo 2000 plans.

## **2. Animal Dispositions**

Many of the birds are left to exist for unreasonable time frames in inadequate off exhibit holding areas, and in areas where toxic chemical fumes which may produce fumes.

Everyone, including the curator, agrees that holding facilities for animal quarantine and disposition are lacking at the SFZ. We recommend that the management at the Zoo and the Recreation & Park Dept. immediately plan and construct proper holding facilities for birds.

### **Recommendation:**

1. Properly house and maintain animals while they are awaiting shipping.
2. Curator to consider proper space for holding birds. If no space available, then curator to reconsider plans for collection so that current animals housed in zoo are cared for before new species are introduced.
3. DO NOT house birds in areas where toxic chemical fumes are present. It is a well known fact that the specific respiratory anatomy of a bird is such that it absorbs and moves respirants through its system of air sacs far more efficiently than other members of the animal kingdom (i.e. the canary in the mine theory).
4. Curator not to acquire birds that cannot be exhibited at the zoo and must be shipped out of the zoo to private individuals.

## **3. Stagnant/Mundane Exhibits**

The outdoor aviary has been in a state of decay as have the species it houses. This has been ongoing for approximately 1-1/2 years. The exhibit requires immediate attention.

### **Recommendation:**

If the SFZ and Recreation & Park Department want to maintain the exhibit they must make a financial commitment to do so. This effort can be easily accomplished by including the Bay Area scientific community, Conservation Corps, the Academy of Science and local contractors and engineers and



combine the effort so as to build community involvement and interest in the zoo.

#### **4. Inappropriate Exhibits/Facilities for Species**

The food preparation area behind the siamang string is completely inadequate for the keeper to prepare avian diets. There isn't any shelter or hot water. During inclement weather the keeper prepares diets in the rain and wind, never under sanitary conditions.

For several months the current curator has maintained Laysan Teal ducks in very small cages and 13-14 Victorian Crowned Pigeons in an inappropriate exhibit area on the west end of the Elephant house, which resulted in stress, aggression and deaths of some animals. The teal were caught and spent several months in small caging before they were tested and banded. Some Victoria Crowned Pigeons housed in the Elephant House were in overcrowded, dusty conditions and in an environment without proper ventilation while toxic chemical fumes were present.

#### **Recommendation:**

1. It is imperative to construct a simple structure with hot and cold running water capabilities to ensure a healthy food prep area.
2. Construct holding facilities to properly house birds waiting shipping. The area behind the Indoor & Outdoor Aviaries can be easily accommodate holding facilities.

#### **5. Record Maintenance**

Please refer to discussion of same topic under Curator of Mammals heading. Generally, similar issues arise and similar recommendations can be assessed. The bird diets we received were slotted for upgrading two years ago, however, as of this writing it has not yet been done. Necessary changes in the bird diets are not on line with the cyclical changes in their annual cycles, for example, one memo we received which ordered diet changes during the breeding season was issued after the breeding season of the specified bird was over, (see attachment #5).

In completing this section, the following statistics indicate the status of the bird collection before and after the position of bird curator was filled. From 1/85 to 2/87 there were 91 recorded births, 74 recorded deaths (or animals which did not survive at birth). 42 of these births were penguins of which 20 did not survive. Beginning in 3/87 (when the curator of birds was in place), there were recorded 68 births, 98 deaths (or animals which did not survive at birth). 47 were penguins of which 28 died during this time. Please note that the aviary fire in which some birds died occurred before the bird curator position.





## **C. Diet/Nutrition**

For the most part, aside from the birds, the animals are fed fairly well; however, there doesn't seem to be enough variety. Possibly the budget needs to be increased in this area so that the animals don't become so accustomed to and bored with their diet. Dietary concerns are documented below:

### **1. Koalas**

The koalas have a specialized diet which consists strictly of eucalyptus leaves. There seems to be some concern on the part of some of the keepers that the varietal supply of eucalyptus available in SF is being depleted and that there aren't any plans in the near future to cultivate this plant. We recommend that zoo administration look into this immediately because of the sensitivity of these animals to a specific diet.

### **2. Carnivores**

For the most part the carnivores are fed well. On some occasions the fruit for the bears has been rotten (witnessed by this subcommittee), this is a problem with the purchase of the produce.

The one place where diet improvements can be made is in the small cat area, (all leopards, jaguars, mt. lion, lynx, serval), and that is to alternately feed them fortified chunk horsemeat and ground meat. These cats do not seem to enjoy the ground meat (which has been known to possess bacteria discovered during nutritional research), they leave most of it in their enclosures, which becomes a great meal for rodents and feral domestic cats at the SFZ. Also, the processing plants for ground meat are not regulated by any governmental agency. It is also more difficult to clean the day old sticky ground meat from the enclosure, thus enhancing the aforementioned pest problem. These animals may not be receiving the proper nutrition and proper muscle workout of their jaws, teeth, etc. by consuming only some ground meat. Occasional chicken necks were also recommended by the keeper as a dietary supplement for these cats. (see attachment #6)

### **3. Primates**

The greatest injustice in diet is done in the primate areas. It isn't so much with what is fed as it is an issue of how it is fed--the presentation. Most all of these animals are capable of consuming whole fruits and enjoying the act of doing so. Instead they are fed small pieces of cut fruit which isn't stimulating for them to consume. We can surely identify with the satisfying feeling of consuming a whole apple or peeling and eating a banana. The food ought to be fed in big chunks to these animals or cut in half or quartered. The tiny pieces which they are currently given adds to the boredom of their captivity. Some of the ape keepers have been enhancing (enriching the environment of the animals) the exhibits with raisins, honey, cereal, and nuts and placing them in the exhibits for the animals to forage. This is very good and ought to be broadened appropriately for the primate collection as a whole in order to stimulate activity for these extremely intelligent creatures.



The worse case of deficient food conditions is in the Spider Monkey diet. These animals are fed on the floor of a cold, damp concrete room. There isn't any food holding structure for their diet. They do not have anywhere to comfortably perch and enjoy their meal. Remember, we mentioned earlier in this report that these are highly arboreal animals even during feeding habits. Nonetheless, the food was dumped onto the floor, in one pile so that dominant animals could conceivably keep subordinates away from the food. However, the worst part of the Spider Monkey diet was that the food fed on the day we toured looked 36 hours old. It wasn't the slightest bit fresh or appealing. The other problem of feeding in this manner is it encourages the rat population to flourish in this area.

#### **4. Birds**

One of the primary goals and function of the current bird curator at the time of hire was to upgrade and improve the bird diets. To date a diet program has not been implemented. Failure to address the nutritional requirements of these animals results in breeding complication, as well as health problems. The diets of the animals are uniform and do not cater to the specific needs of the wide and varied bird species at the SFZ. The diets also do not consider the cyclical annual requirements of birds. Birds undergo intense variation in dietary needs with the various stages of growth, molt and breeding phenomena which occur for the individual species. This has been a concern among many of the keepers at the zoo who work with birds.

One concern addressed by the keepers was the lack of specific seed for a large dove species exhibited at the SFZ. In order to correct this, finch seed, for very small birds,--not dove seed--was purchased; however, there are no finches on display in the City run portion of the zoo.

While the curator describes lengthy analysis and research with reference to the bird diets, it is difficult to understand why three years has passed with so little improvement in diets.

#### **Recommendation:**

SFZ administration look into these dietary issues. Current curators to be held accountable for designing proper healthy animal diets and methods of feeding.





## **V. ANIMAL HOUSING**

While some of the zoo officials have indicated that the "old" exhibits are a major problem at the SFZ, our subcommittee has consistently found that the old exhibits consider the animals' needs and well-being consistently better than the newly constructed facilities. The older exhibits should not necessarily be destroyed, but rather properly enhanced to meet the animals' behavioral needs. Even with the old and outdated exhibits, this does not preclude the SFZ from managing the animals appropriately and ethically. And to further emphasize, failure to meet the overall needs of the animals is more evident in the more recently constructed exhibits.

### **Exterior Exhibits:**

With the exception of the primates, most of the exterior exhibits are sufficient when considering the amount of time the animals spend in these outdoor enclosures, (approximately 6-7 hours per day); however, they can be enhanced to enrich the animals' daily activity level without great expense and with the assistance of research efforts through local universities.

### **Recommendation:**

Enhance these areas to encourage daily animal activity (i.e. scratch posts, poles, ropes for climbing and swinging, etc.) to alleviate boredom, increase physical activity, and decrease stereotypic behavior.

### **Night Quarters:**

The night quarters and holding facilities are grossly inadequate and/or lacking for most of the animals, especially for those in the newly constructed exhibits.

### **Recommendation:**

The bedrooms ought to be more spacious and designed with each animal species' peculiar needs in mind because the animals generally spend 16-18 hours a day in these areas.

These off exhibit areas can be enhanced by adding appropriate perches, landings, nets, and nesting platforms; by integrating increased lighting into the quarters; and by feeding the animals in a more creative way--whole fruit, varied fruits and vegetables.

Some good and bad examples of this topic will be addressed in the following paragraphs:



## **OUTDOOR & INDOOR ENCLOSURES -- AREAS OF IMMEDIATE CONCERN**

### **1. Bears**

The Sun Bears exhibited across from the East side of the Pachyderm House are in a particularly bad exhibit. It is far too small and cramped for them, they do not have appropriate climbing structures, nor do they have adequate space distancing them from the public. The wall separating them from public view is very low and poses a danger in that visitors, especially children, can easily fall into the exhibit. They are far too close and anyone can throw items into their exhibit. This exhibit is also difficult to maintain in top sanitary conditions, as opposed to the other bear grottos, and thus poses a health hazard for these animals. This is because the concrete surface is extremely uneven and has many spaces which can harbor unwanted organisms. These creatures happen to be quite energetic and playful and deserve better housing than their current exhibit.

#### **Recommendation:**

These bears must be housed in a better exhibit. These animals must have a properly planned, designed and constructed enclosure or ought to be temporarily moved to a facility which can house them until SFZ can appropriately accommodate them.

### **2. Large Cats--Outdoor**

The grottos for the large cats, the lions and tigers, are of sufficient size. They are deeply moated exhibits and thus the animals are well protected from public intrusion and vica versa. These outdoor exhibits were recently enhanced (defined as increasing the aesthetic nature of the exhibit in order to provide the animal with a more naturalistic environment or to stimulate the animal so that it exhibits natural behaviors); however, with a major flaw. When the concrete floor was jackhammered and replaced with foliage, part of the concrete was also replaced with cobblestones. According to the keeper, these cobblestones are very uncomfortable for the cats to walk or lay on and pose a safety hazard for the keepers when they clean the exhibit. Also, there wasn't any sort of drainage system constructed into the exhibit to facilitate hosing and eliminating the feline urine once the cobblestones and new foliage were in place. Because of this, there is a urine stench in the exhibits which not only is unpleasant, but may be unhealthy for the animals as well.

The foliage is aesthetically pleasing for the cats and public, but the keeper should have been consulted before the reconstruction of the exhibit floor was planned in order to have designed and built the floor so that the cats would be comfortable and the keepers safe while walking and working out in the exhibit. This outdoor exhibit also has a well-planned tunnel structure so that one can move cats from one outdoor exhibit to the next without going into the Lion House (night quarters) and also connects to the interior of the Lion House. This old design and structure is built with well-thought out planning and with sound construction techniques.



## **Recommendation:**

The cobblestones ought to be pulled out of the exhibits and replaced with another substrate, (i.e. concrete, or something else which would be conducive for these animals) and a drainage system ought to be installed which will not become clogged, in order to facilitate hosing of the areas.

### **Large Cats--Indoor**

The Lion House is another well-designed and constructed building. The enclosure fulfills the keepers' and the animals' needs. Additional cats could be incorporated in this structure. This facility allows for practical and flexible animal management.

The Lion House is also one of the major public attractions at the zoo during the feeding of the Big Cats.

It is unfortunate that the recent (1981) renovation of the exhibit eliminated the enclosures along the north wall; thereby, significantly decreasing animal exhibit areas.

We've included this to promote the sound quality of the Lion House and to insure that it will be maintained in its current function in pending "Zoo 2000" plans.

### **3. Aquatic Carnivores**

The River Otters, Sea Lions and Seals are extremely intelligent, active, and playful animals. Unfortunately, at the SFZ they are all exhibited in completely unstimulating environs.

The salt water animals, (e.g. the seals and sea lions), do not even have a constant fresh salt water environment. They do not have any structures in their exhibits or have any training to constantly stimulate and challenge them in their daily lives. The Gray Seal is exhibited alone. This species is social and this animal's environment is not only the worst case description of sterility in the sense of mental/emotional/physical stimulation but it is essentially maintained in solitary confinement.

The zoo and City of San Francisco need to decide whether they are willing to commit themselves to fully and properly maintain these animals. Two of the four species housed here are not endangered/threatened and are regularly viewed off of our Coast. To properly house them at this zoo, new facilities would need to be built and additional staff hired. Aquatic exhibits are labor intensive and a waste of natural resources (i.e. water is currently not recirculated). The space and keeper time can be better utilized with other species because there isn't a valid reason to continue maintaining these animals here.





### **Recommendation:**

If the zoo decides to continue exhibiting these animals, the following must be done:

1. If possible the Gray Seal ought to be placed in a social environment. We understand that this is a mature male and has a cataract in one eye, but we still feel that he could be in a more suitable social environment.
2. The zoo should acquire fish limiting automated feeding machines for the seals and sea lions which the public can operate via coins.
3. Implement the design enhancements presented by local institutions (i.e. SF State University) for the River Otter enclosure which were not incorporated when submitted.
4. Holding pens need to be constructed for the sea lions and harbor seals. Simple runs can be made by laying down concrete, putting up enclosures, digging individual pools and providing proper drainage for the runs. This can easily be built on the west side of the exhibit near the outdoor aviary. It is important to have such holding facilities in order to separate animals and promote sound management of these species.
5. Contract the services of a water systems engineer (i.e. ENARTEC of San Diego) to design and construct a recirculating water system for the exhibits. This will drastically decrease the water consumption/waste for the zoo.

### **4. Canids**

The wolves in the zoo seem to have a good exhibit. Their exhibit is large enough to allow them to live in many different settings similar to their natural habitat. The exhibit has a wild natural look and primarily places the animals above eye contact with the public. This higher level outlook affords the wolves a better sense of security and is a factor which ought to be considered in all enclosures at the SFZ which house species that are stressed when exhibited under the eye level of the viewing public. A fault of this enclosure is that the keepers are not able to visually locate the animals and monitor their daily condition. This is a function of the design factors of the exhibit and falls into the realm of the curatorial staff.

### **Recommendation:**

Given a particular design, the curator must then establish a protocol so that the animals can be monitored on a daily basis.

### **5. Hoofstock/Marsupials--Outdoor Exhibits**

These exhibits are set in the underutilized Northern section of the SFZ. These exhibits are mundane and spatially inadequate.

Of the four macropode species exhibited in this area, only the smallest species, the wallaby, has an exhibit of decent size. The others have mundane, small



rectangular exhibits. The Great Gray Kangaroos exhibited near the PDC have a good sized exhibit but they are housed too close in proximity to the public.

#### **Recommendation:**

1. Because these animals are not endangered/threatened (Encyclopedia of Mammals, MacDonald 1985), the zoo ought to consider reducing the number of kangaroo species. The space can be allotted to endangered/threatened species. Because the exhibit housing the Great Gray Kangaroos has the most potential to be a good exhibit, the subcommittee recommends that the City keep only this species.
2. Upgrade the current Great Gray Kangaroo exhibit by constructing a rail for protecting the public.
3. Construct appropriate feeding troughs to keep rodents from consuming the Kangaroo's food.

#### **Hoofstock/Marsupials--Indoor Facilities**

There is a serious lack of holding and animal containment facilities at the SFZ.

#### **Recommendation:**

All hoofstock/marsupial exhibits need holding pens and containment chutes, (i.e. cattle chutes), in order to properly manage these animals.

### **6. Primates**

#### **A. Gorillas--Outdoor**

The gorillas at the SFZ are a famous group. These animals were the first to ever have young in the U.S. and actively raise them in a family with the sire involved. While the outdoor exhibit initially appears to be an "ideal Gorilla" facility to the untrained human eye, in fact the problems in the exhibit produce stress in the animals individually and as a group. The Zoological Society insists that the Gorillas be constantly on exhibit, so the adults are locked out of the night quarters even during chilly days. These are lowland gorillas and accustomed to a warmer climate than that of a foggy SF day. They are susceptible to many of the same diseases and illness we are, so if they spend the day out in 60 degree chill they may become ill. Most concerns of this facility are discussed in the Facilities section of this document; however below is a discussion of some other key issues:

- The animals do not have any privacy from each other nor from the public. This leads to increased internalized stress and ultimately reduces potential breeding behavior.

- The adults have no secure place for flight during conflicts while they are locked outdoors.





- The gorillas are exhibited below eye level of the viewing public. It is a well known fact that primates are stressed when exhibited in this manner. The animals require a structure in the yard where they can get away from public view.

- Locking the animals out of their night quarters causes stress. During the inclement SF weather, locking the animals out directly affects their health. One gorilla died with pneumonia after being locked out in the cold. It should be noted that under the previous keeper who cared for the gorillas for twenty years, none of the gorillas had health problems related to exposure. Current supervisors and managers of this gorilla family are not considering the health of the animals.

- Another critical shortcoming of this exhibit is the lack of construction of a second entrance into the yard from the night quarters. The primary keeper of these animals at the time of construction of the exhibit urged that this feature be included. This factor was not incorporated into the design and now there exists an increased problem with managing this group. Again, another incident discussing the lack of keeper expertise and knowledge used in the design of exhibits.

### **Recommendation:**

1. To compensate for the cold, the Zoo can install radiant heating in the rocky structures of the waterfalls so that, on cool days the waterfalls could be turned off and the rocky waterfall structures could provide heat and some shelter for the animals and still be in full view of the public. This would promote and ensure better health of these gentle giants.
2. To ensure the proper management of this species, and in consideration of their complex social structure, we recommend that an additional yard be constructed to facilitate separating the animals as the need arises.

### **Gorillas--Indoor**

The indoor facility for the gorillas is underutilized because of the mismanagement of the group by the curatorial staff. This night house was well planned, designed and constructed. There was quite a bit of keeper input as to the design during the planning stages and follow through during construction. The building has radiant heated floors, the bedrooms are elevated off of the ground. Caging within the night quarters system allows for easy movement of animals within the entire enclosure which facilitates sound animal management. The keepers have a decent working area.

### **B. Chimp/Orang--Outdoor**

The structure which houses the Chimpanzees and Orangutans, the Triple Grotto, is not an example of a good exterior zoo exhibit. The chimps are in far too close proximity to the public and unfortunately are constantly taunted, teased and abused by the ignorant public. The chimps also are overcrowded into one lobe of the



Triple Grotto. This poses a problem in the social structure of the chimps. They have volatile temperaments and require a flight distance from one another. In the space which they inhabit now, there is little or no space that one animal can put between itself and an aggressor.

#### **Recommendation:**

1. Explicit and informative graphics are necessary, especially in these areas, in order to educate the public and decrease the amount of emotional and mental abuse these animals receive from the public on a regular basis.
2. Construct a well planned and well designed orangutan exhibit and then allow the chimps free reign throughout the entire Triple Grotto structure. This will give you enough outdoor space and indoor housing to separate and isolate animals as the need arises.

#### **Chimps/Orangs--Indoor**

Unlike the PDC, this facility constructed in the late 30's is a far superior one by comparison. Although the facility is small in size and there aren't enough enclosures to isolate animals, the floors are radiantly heated, and the animal cages are built up off of the ground with adequate ledges for them to lie down and rest.

#### **Recommendation:**

1. The downfall of this area is that there aren't any keeper amenities. There isn't any hot water, little storage area and no locker area for the keeper to change uniforms. Apparently, by the time this report is formally issued some of these drawbacks may be corrected.
2. Also, there aren't enough cages in the back to separate animals. If this entire grotto area housed only one ape species, the cages and space would accommodate them.

#### **C. Spider Monkeys--Outdoor**

Next to the PDC, this is the worst primate exhibit we have at our zoo. This exhibit is incredibly labor intensive and inappropriate for arboreal animals. These monkeys do not have any sufficient climbing structures to exhibit their fabulous prehensile, or grasping, tail. Not only that, the moat requires a lot of work in order for it be maintained free from disease problems.

#### **Recommendation:**

1. Immediately place these animals in an appropriate exhibit conducive to their arboreal natural history.
2. If proper accommodations are not available, send the animals to institutions which can properly facilitate them.

#### **Spider Monkey--Indoor**



This is another nightmare of an off exhibit facility. Once again, the natural behavior of the species has been ignored and these highly arboreal animals are confined to a terrestrial life style in their night quarters. There isn't a perching or swinging place for these creatures in their bedroom. What's worse is that they are fed on a cold, damp floor, the same floor used by them as their toilet. These primates are in the worst facility imaginable by far.

**Recommendation:**

1. Please refer to recommendation section directly above.
2. If recommendation #1 is not acted upon, then, construct some horizontal perching areas in the bedroom and also place some well designed feeding trays in an elevated position throughout the exhibit

**D. Primate Discovery Center (PDC)--Outdoor**

This is clearly one of the most impressive eyesores in our zoo today. It is supposed to represent innovative design techniques in order to enhance the animals' existence in captivity. Unfortunately, this is not the case. This is another example of a newly constructed exhibit being designed, planned and constructed without the appropriate input from the keeper staff. The yards for the Patas Monkeys, Colobus and Mandrills are passable.

**Recommendation:**

1. Consider exhibiting species other than primates in this structure. With some modifications, this building may become a decent aviary and herpetarium.
2. Consider constructing an appropriate facility to house these fantastic primates.

**PDC--Indoor**

The spider monkey island bedrooms are passable considering the era in which they were built. But, there isn't any excuse for the design and construction of the PDC bedrooms. State of the art technology was available during the design and construction of this facility, yet radiant heated concrete floors were not even built, a technology available during the design of Gorilla World in the mid-1970's. The cages are small and cramped resembling isolation chambers instead of bedrooms in which the animals spend 16-18 hours of their day. There clearly wasn't any thought given to the natural behaviors of these species when the facility was designed, because there aren't proper structures for the animals to comfortably sit and rest in these bedrooms.

The patas and mandrill cages are the worst. There are no feeding plates in the quarters so the animals are fed on the cold, damp floor where they also must urinate and defecate. The cages are narrow and high and not properly designed for terrestrial species. Additionally, this height presents a life threatening hazard for the animals when they are darted for moving or medical procedures. Primates naturally climb to the highest point when darted/pursued and can fall to the concrete





floor as the tranquilizer takes affect. These animals do not have a clean, warm or dry place to lay down in their bedrooms--ever.

The enclosed glass exhibits have heating and ventilation problems. Until recently, the keeper staff was not allowed to learn how to adjust the controls for the HVAC system. Only the curator has keys for the control box and we could not get an answer as to what happens when there is a problem with the HVAC and the curator is off that day.

**Recommendation:**

1. Refer to recommendation section directly above



## VI. ELEPHANT MANAGEMENT RECOMMENDATIONS

### BACKGROUND

The Asian Elephant, *Elephas maximus*, is a species capable of living and working closely with man. For more than 5,000 years they have been utilized by Southeast Asian cultures as idols, bulldozers and war vehicles. In addition to this close association with man, these animals are highly intelligent creatures and require stimuli to promote a healthy use of their intelligence. Elephants require a lot of exercise to keep them fit. Given the construction of the existing facility, a "hands off" policy toward these creatures seems cruel. They require close human contact and management.

The SFZ has been the focus of much negative press regarding the care of its Asian Elephants. In October 1988 an injury to an animal health technician and an elephant keeper by one of the Asian Elephants was followed by allegations of elephant abuse during training and disciplinary procedures.

The zoo convened an Elephant Panel of three experts with captive elephant experience. The panel found "...no substantiated evidence of historical abuse by the current elephant staff." The SPCA investigation also found no abuse.

This subcommittee received testimony from zoo staff stating they had witnessed the zoo's Asian Elephants being beaten by members of the elephant staff. The subcommittee also received statements that no beatings had occurred. One Asian Elephant did have a wound which some described as an abscess, others as a "hook" wound. During our investigation this same elephant had a definitive "hook" wound, but we do not know who inflicted it.

The zoo also hired an elephant expert who worked with zoo staff and stated to a Zoo Advisory Committee member that the zoo had no adequately trained elephant keepers.

It is important to recognize that the terms "beating" and "abuse" are subject to interpretation and what one perceives as "abuse" or "beating", another may feel is necessary/appropriate discipline. Historically, elephants in circuses and zoos have been trained and disciplined utilizing methods which are now being reevaluated.

Given the controversy surrounding this sensitive area it is essential that the zoo take effective steps to address these concerns. We strongly feel that with the McCorquodale bill, which is currently effective, and with the current AAZPA Guidelines for Elephant Management, that the keeping staff in this facility be encouraged to be leaders in the ethical treatment of elephants and abolish any reason for such allegations. In this, as in other problem areas at the zoo, success will depend crucially on a competent veterinarian and curatorial staff.





The new director and curatorial staff should consult with experts concerning the proper care of these elephants. Consideration should also be given to using existing unfunded keeper positions to acquire the needed elephant training/handling expertise.

### **RECOMMENDATIONS:**

1. Staff the facility with experienced elephant handlers/trainers from within current zoo keeper staff and/or recruit from other facilities.
2. Management must develop a complete and humane elephant management program which will include protocols, safety measures and emergency procedures ( including earthquake, fire, etc.).
3. The chaining should be kept to a minimum. Chaining the elephants should be for behavior training and for medical purposes. The facility should be modified to allow both hands-on and hands-off management of the elephants at the discretion of the elephant management team. Work with new keeping staff to plan improvements for elephant barn facility. Get immediate estimates and begin construction to upgrade the barn.
4. Clear the inside of the building of all materials which are being stored in the Elephant House. Consider the opening of the Elephant House to enhance the public's experience at the zoo (i.e. viewing the elephants eating, etc.)



## VII. EMPLOYMENT/MANAGEMENT RELATIONS

It became apparent that there are a lot of problems between the SFZ senior management team, (senior keepers, curatorial staff, veterinarian, head keepers and director) and the animal keepers which impacts on the quality of care which the animals receive. Most of these problems are due to a lack of communication between these two groups.

For the most part, with the exception of the Gorillas and Penguins, the senior management seldom consults with the keeper staff when various management measures need to be planned concerning the animals in their care. No one knows an animal better than the keeper who has been working with that animal daily. This can easily be compared with a parent who knows his or her child and can essentially predict the child's behavior given a particular situation. The keepers ought to be involved in the planning of animals moves, treatments or medical procedures. The information given by the animal keepers to management ought to be incorporated in managing the collection. Only through their input can management effectively and safely manage the animal collection.

Additional support staffing is urgently required at the SFZ. In lieu of hiring a second veterinarian or a general curator/assistant director, three additional support positions ought to be created and filled. One, as discussed in the Records Maintenance section of this document, is a full-time position for a Records Keeper who will maintain the records for the curators and vet hospital staff. The second position is a clerk/typist for all the Curator staff. Thirdly, a receptionist/clerk/typist is needed full-time to answer phones in the main zoo office and should also assist the Head and Assistant Head Keepers. Finally, and most importantly, the director needs a full-time executive secretary. A facility of this size cannot exist without support systems.

Throughout the last year we have also become aware that the curator of birds is required to attend numerous meetings with various project groups at the zoo. We are not sure whether this has been due to the vacancy of the director position or for other reasons. We feel that the curator of birds currently has a position which requires that her focus be on the bird collection and that these meeting commitments be shared with the curator of mammals and/or, if appropriate, be attended by the new director.

### Recommendation:

1. In the Civil Service job descriptions, under the paragraph(s) describing minimum qualifications for the various senior managers, the people in these positions are required to work well and effectively with the animal keepers in order to properly manage the animal collection. We recommend that they be required to fulfill these minimum qualification requirements and be held accountable in the areas where they do not.
2. Hire the above recommended support staff positions.



## VIII. VETERINARY SERVICES

In our investigations and tours through the animals' facilities we had opportunities to speak at length with the keepers caring for the animals. Their reports about the Veterinary care were disturbing to us.

The Veterinarian (vet) was described consistently as rude. The communication between the keeper staff and the vet is not at a level to facilitate quality animal care. According to the keepers' repeated statements, the vet does not listen to them when they describe the symptoms and health problems with the animals, nor does he handle the animals properly when restraining them for treatment or when capturing and transporting them; nor does he properly test, evaluate, or medicate the animals, (see Veterinary Care Subcommittee report for details).

In treating an animal it is important first to restrain/immobilize the animal for physical evaluation. There have been a number of incidents in which the vet has allegedly stressed or improperly handled the animals, (e.g. otter capture in April 1989, black & white colobus female injured by cagemates earlier in 1989). According to the keepers, the vet does not discuss and plan with the keepers animal restraint procedures for specific animals and, in the otter incident, this resulted in injuries to a Senior Keeper and himself. The injuries to him also caused a delay in the animals' receiving veterinary care because he had to go and be treated first.

There is also a serious zoonotic disease problem at the SFZ with many of the animal species, but especially with the primates. A large percentage of the primate keepers have been ill for the past year. The Chimpanzees and Orangutans are all infested with parasites and not being medicated effectively. Historically, the keepers were not kept abreast of the zoonotic testing and results from the laboratory and had a great deal of difficulty being diagnosed properly and treated effectively by their physicians for parasitic infestations due to lack of such information from the Veterinarian. In addition to the keepers being infested by the parasites from the animals with which they work, there is the problem of the infected Chimpanzees infecting the public. The Chimps are in close proximity to the public, and because of their social structure they are readily excited and teased by the public. To retaliate to the teasing, the Chimps throw their fecal matter, infected with parasites, at the public regularly during their displays. If this fecal matter comes in contact with the public, and it does on many occasions, this poses a powerful potential for zoonotic disease transmission to the zoogoing public. If properly traced this could potentially lead to legal action against the City of San Francisco, the SFZ and the SFZ Veterinarian. The Vet has failed to cure and prevent this disease transmission.

The vet does not view the animals at the SFZ on a daily basis. By performing daily rounds, the Vet would obtain valuable information regarding the animals' normal daily behavior and use this data as baseline guidelines to evaluate the animals when they are not well. Currently, as a result of suggestions by the Veterinary Subcommittee of the Zoo Advisory Committee, the vet is performing intermittent weekly rounds.





**Recommendation:**

1. Remove the current Veterinarian.
2. Transfer the vet to another Civil Service position.
3. If the first two recommendations cannot be followed, then he should be required to fulfill his job description and be accountable if he is not doing so.



## IX. CONCLUSIONS

### A. ANIMAL COLLECTION

From this document one can see that there is a lack of sound collection management which leads to decrease in productive animal breeding, animal stress, emotionally and physically unhealthy animals and animal deaths. Members of the curatorial staff must be held accountable for their actions. The animals continue to suffer. The citizens of San Francisco are not provided the appropriate educational experience about animal conservation from this institution. This zoo can rise to the level of a world class conservation and educational facility comparable with the National Zoo or the Bronx Zoo if management is held accountable and managed the animals and staff properly, and if our recommendations are implemented. A great deal of effort on the part of the subcommittee members was employed in investigating the collection management for this report.

We would like to acknowledge the zoo keepers for all of their expertise, cooperation, interest and patience, and those members of the senior management who cooperated with us. The animal management recommendations of this subcommittee emanate from a combination of 67 years professional and educational expertise in the field of captive exotic animal management.

To briefly highlight:

1. The natural history of the animals must be thoroughly investigated prior to acquiring new animals in order to determine if the SFZ has the capability to provide sound management of the species. For animals currently housed at the facility a thorough investigation of the species natural history must be conducted and exemplary collection management put into effect immediately. The curators are responsible for the initial research on the natural history, after which they ought to pool information from the keeper staff on the daily management issues concerning each species.
2. The diets of the animals must be upgraded. Again, initially, a curatorial function with information pooled from keeper staff as well. UC Davis also has an animal nutrition program and cooperative efforts ought to be explored to assist the curators in dietary changes. During the reign of the past director, and unfortunately discontinued by him, the zoo regularly received donated produce and other food stuffs from Safeway. This provided variety to their diets and enhanced the nutritional substance of said diets. This donation program should be reinstituted.
3. Animal exhibits must incorporate designs to enhance the species natural behaviors. Local universities, exotic animal experts, engineers and contractors ought to be utilized in a cooperative effort so that the entire community feels it is contributing to the positive progress of the zoo.
4. Breeding records must be maintained to include problem breedings, sound breedings, culling and animal rotations so as to decrease inbreeding.





5. Ethical treatment for the animals at the facility, animals waiting to be moved in or out of the facility and geriatric animals must be employed.

6. Extensive animal records must be maintained and be available to the public if requested.

## **B. ZOO 2000**

Of the current Zoo 2000 plans the animal experts of this committee have viewed, we do not feel that the designs are the best that can be created for our animal species nor do they have the animals' best interests in mind. Consideration to the microclimates of the SFZ are not considered and the result is that many tropical animals will have exhibits in the coldest areas of the facility. Natural history of the animals has not been fully considered in many cases. The keepers have not all been encouraged to provide key input to the designs. Additionally, local scientific expertise has not been solicited nor incorporated in the design efforts.

### **A brief overview of recommendations:**

1. Completely rethink the current master plan and outline of exhibits for the Zoo 2000 plans. There are superior design layouts available in comparison to the current one.

2. Consult with the local experts in the community (scientists, universities, keepers and former keepers) in design considerations for the overall theme of Zoo 2000 and the individual animal exhibits.

3. Provide for the animals which currently exists at the zoo first. Then design exhibits which will incorporate new species that can be housed and bred successfully at the zoo. In the latter consideration, research for animals that are threatened or endangered species and decide if the SFZ climate and the City's budget can afford to successfully manage the species.

4. Incorporate themes and ideas which will launch the SFZ into the 21st century of the captive animal community. Focus on educating the public utilizing the unique individual personalities of the animals in the species. The public generally wants to know the animal's name, age, personality quirks and its personal history. In other words, the public is interested in the individual as well as the species.

If these preliminary recommendations are considered the SFZ will be able to become the leader in captive animal presentation, management, conservation, and education in the coming decade.



ATTACHMENT ONE

Curator of Mammals Rebuttal Letter



11 January 1990

The Honorable Justice William Newsom, Jr.  
Court of Appeals  
350 McAllister  
4th Floor

SAN FRANCISCO San Francisco, CA 94102

ZOOLOGICAL  
GARDENS

Dear Judge Newsome:

A DIVISION OF THE  
SAN FRANCISCO  
RECREATION &  
PAVE DEPARTMENT

ONE ZOO ROAD  
SAN FRANCISCO  
CALIFORNIA  
94132-1090

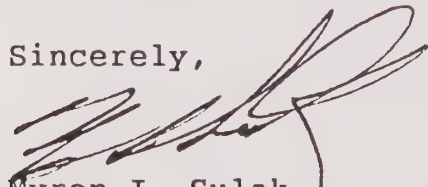
PHONE  
(415) 753-7088  
FAX  
(415) 681-2030

I am writing to you in response to the draft of the Animal Management Committee report. Much to my dismay, I received this report via the keepers and have found many inaccuracies. The draft was not sent to the curators, but rather given to animal keepers. I would request that any future revisions be given to the curatorial staff as well so that we would be given a chance for further comment.

I wish to submit to you the following for your enlightenment for the executive summary which you are writing.

I wish you and the committee members the best of luck in finalizing a beneficial report that will enhance animal management at the San Francisco Zoo. If I can be of any further assistance in this endeavor, please feel free to contact me.

Sincerely,



Myron I. Sulak  
Curator of Mammals

MIS:wap





In regards to the introduction, I am a little confused as to what is meant by "managed to have meetings with the curators and assistant head keepers." We never refused and met every time it was requested. On at least three occasions the meeting was canceled by the committee chair.

In regards to the first recommendation on page 5, instead of the Curators fulfilling the requirement of the job description, why not adjust the job description to what the reality of the positions are. The job descriptions were originally written in the early 1970's and are totally out of date. These job descriptions are so all inclusive the curatorial staff would have to be superhuman to fulfill these scopes.

On the same page (5) #7. This makes no sense whatsoever. If they mean string procedures, this has and is currently being done. Why submit to Board of Supervisors.

In the Collection Management Section (page 6), the report suggests culling as a management tool. Culling in the livestock industry means killing, something we have been directed by the Recreation and Park Department to try to avoid if possible and if we were to want to do this, public meetings are to be held, something that I believe the general public would not stand for.

The section goes on to talk about the waterbuck. Prior to 1989 we never had any difficulty in placing these animals. In fact, between 1978 and 1988, we surplused 16 animals. It was not until 1988 that the animals became a surplus problem.

In regards to the comments on the lemurs, a father was allowed to breed with his daughter (a common breeding practice called line breeding). The report states that lemurs were born with no eyes. In fact, although this did occur, it happened only with one single birth, not multiple times as indicated in the report by the use of plurals. Furthermore, and most importantly, this offspring was born to unrelated individuals. Toxoplasmosis, which has been identified in the group can cause this type of genetic flaw.

The report then goes on to talk about the axis deer. The axis deer are a popular exhibit at the zoo because of their unique spotted coats. The report indicates that there are problems with the offspring. If one were to look at the numbers of births occurring in the past five years included in the International Species Inventory System, one would find the numbers of births were 454 and the number of deaths as 233. In the same time frame, 61 animals have been born here and 27 died. Statistically speaking 51.3% died nationally and 44.2% died at San Francisco. Our survival rate is significantly higher than the national average during the same time period.



In regards to the Mt. lions, since the female arrived in 1983, 9 cubs have been born. Two died shortly after birth and seven have been placed without any difficulty. Only with this last litter has there been any difficulty. The keeper staff never informed the staff of any matings and no preparation was made. Immediately after the birth, the adults were separated and they weren't put back together until after the male was vasectomized. The offspring have since been committed to the Lincoln Park Zoo.

#### Page 6 Recommendation

In regards to the recommendation, if we were to use the short sightedness of the subcommittee, and only breed endangered and threatened species, animals that are not now threatened or endangered may become so. In addition, animals that may be in much higher jeopardy may not be bred because they lack the "legal" definition of endangered or threatened and the visiting public would be denied seeing young animals, social groups and the tremendous variety of wildlife that we now present them.

#### Colobus Colony

The new animals were added to bring some new blood to our group and to increase the size of the group because of the over 10-fold increase in the exhibit room. A matrix introduction process was used which was developed by Dr. Ben Beck. It was successfully used by several institutins prior to us using it, however, never with such a large group.

#### Gorilla

San Francisco has successfully introduced 3 previous handreared gorilla babies. One of these being Bwang, the mother of Shango, approximately 5% of handreared gorilla raise their own young. an accomplishment that we are very proud of at the zoo. Binti Jua had to be introduced to a group eventually and since it would be seven years before she would be sexually mature it was felt San Francisco would be an excellent place for her. I cannot say who will be our breeding male five or six years from now, although I agree we do not want her to breed with our current males. It is also advantageous at times not be reared with an animal as a peer which you want then to breed in the future because they will not breed because of their peer relationship.

#### Animal Disposition

We have never sold animals to any company or individual that we knew went to shooting game ranches. To clarify this, several months ago, we added to our disposition forms a statement addressing this concern.





## Stagnant/Mundane Exhibits

I will not deny that we have some exhibits that should be enhanced. We have certainly provided boomer balls for the animals. I believe the otters had some in the past. I believe this is within the keepers responsibility to either request or supply an item as simple as a log as was suggested in the report as being a curatorial responsibility.

## Small Cat String

Under the recommendation, there is nothing listed that hasn't always been done with the exception of toys at all times with the animals and heat has never been provided which has not been a "burning issue".

## Axis Deer

I cannot believe we would want to risk the liability of continuously having animals of this size roam the grounds freely. In addition to possibly injuring a patron, there has been animals that killed themselves (hung up on fence, killed by vehicles) when they were able to get out.

## Inappropriate Exhibits

I have no idea why the musk ox are an appropriate exhibit. It is certainly not a "semi-swampy" meadow as the report indicates. It is the most successful group of white-fronted musk ox outside of Alaska in the United States.

It is stated that hoofs on the giraffe are overgrown because of a rich diet and being on the wrong substrate. The animals have been fed a prepared diet made exclusively for giraffes for longer than ten years. It is only one animal that has greatly overgrown hoofs. The substrate on which the giraffe live has worked fine for 15-20 years, however, had washed or eroded away and has been replaced this year.

In regards to the mandrills, they are a social primate. In the collections that I previously worked with, both in Chicago and Evansville Indiana we never needed to separate the animals. It certainly would be the preference not to have to separate the animals. This was the males first offspring and we did not know how he would act.

## Diet/Nutrition

I have no knowledge of an animal keeper feeding rotten fruit to the bears or for that matter any animal. We get fresh produce delivered twice a week.

I find totally illogical the suggestion of changing our frozen feline diet to a combination of chunk horsemeat and chicken



necks. This suggested diet is a classic cause for Nutritional Secondary Hyperparathyroidism (ricketts). The frozen diet is made specifically for exotic cats and supplies them with their nutritional needs.

Trying to be consistent, the report early on suggests that we only breed endangered or threatened species. It goes on to say none of our macropods are endangered or threatened when indeed both the red and grey kangaroo are threatened.

In regards to elephant management, recommendations due to the signup there are limitations on who works there. I also find it insulting to use the words "ethical elephant keeping staff has been hired" implying the current staff is unethical.

In the conclusions about the animal collection, I agree that the curatorial staff should be held accountable for their actions but also must add that the keeper staff certainly should be made accountable for their actions too.

It is also stated that we should recieve donations from Safeway again. This process was stopped years ago because this was Safeway's garbage foodstuffs that they were throwing out. Early in the report it questions the keepers feeding rotten produce, why would we pick up garbage and then serve it to our animals.

Breeding records are maintained to the best ability as the curatorial staff has the resources to do. If the curatorial is supplied with information from the keeper staff it is incorporated. It is not uncommon for a keeper not to notify the office of a birth or put it on the keepers report or fail to turn one in.



## ATTACHMENT TWO

Medical Record for Lemur Offspring





Death: 7 Feb 1987 Specimen Report SAN FRANCISCO ZOOLOGICAL GARDENS Report Date: 9 Feb 1987

Taxon Name: LEMUR MACACO ALBIFRONS

Accession Number: 187011

Common Name: BLACK LEMUR

Acq. Date: 7 Feb 1987

Current Status >>>

Age: OD at removal

Sex: Male

Time on Inventory: OD

House Name:

Tattoo:

Tag/Band:

Studbook Number:

Enclosure:

Dam Id: -----

Sire Id: -----

Dam's Institution: SAN FRAN

Sire's Institution: SAN FRAN

Rearing: -----

Transaction History >>>

#	Terms/Party	Their Spec. Id	Date	Price	Delivery
1	Birth		7 Feb 1987		
2	Death by Euthanasia		7 Feb 1987		OD

LEMURIDAE  
IMATES

ISIS/ARKS  
9 Feb 1987



SAN FRANCISCO ZOO  
ZOO ROAD & SKYLINE BLVD  
SAN FRANCISCO, CA 94132

**VETERINARY  
REFERENCE  
LABORATORIES, Inc.**

OWNER'S NAME  
SF ZOO

ANIMAL NAME  
WHITEFRONTED

AGE

SEX  
M

VETERINARIAN  
MACHADO

ACC N. NO.  
N2754709

SPECIES  
OTHER

BREED

RECEIVED

REPORTED

ROUTING

WHITE FRON 02/09/1987

02/10/1987

31-39-10

TEST PROCEDURE

H/CO

TEST RESULT

UNITS

ADULT NORMAL

HISTOPATHOLOGY

IN HOUSE MULTIPLE BIOPSY

CODED DIAGNOSIS

1. ACUTE MILD CONGESTION OF ALL TISSUES

2. NO SIGNIFICANT LESIONS

MICROSCOPIC  
PATHOLOGIST

PENDING

L. D. MCGILL, DVM, PhD, DIPLOMATE, ACVP

\*\*\*PARTIAL REPORT\*\*\*





SAN FRANCISCO ZOO  
ZOO ROAD & SKYLINE BLVD  
SAN FRANCISCO, CA 94132

# VETERINARY REFERENCE LABORATORIES, INC.

OWNER'S NAME  
SF ZOO

ANIMAL NAME  
WHITEFRONTED

AGE

SEX  
M

VETERINARIAN  
MACHADO

ACC N NO  
N2754708

SPECIES  
OTHER

BREED

WHITE FRON

RECEIVED

02/09/1987

REPORTED

02/12/1987

ROUTING

31-39-10

TEST PROCEDURE

HI/LO

TEST RESULT

UNITS

ADULT NORMAL

## HISTOPATHOLOGY

IN HOUSE MULTIPLE BIOPSY

### CODED DIAGNOSIS

1. ACUTE MILD CONGESTION OF ALL TISSUES
2. NO SIGNIFICANT LESIONS

### MICROSCOPIC

EXAMINATION OF THE SUBMITTED NECROPSY TISSUE REVEALS THE FOLLOWING:

LUNG: THIS TISSUE IS DEMONSTRATING VERY MINOR ACUTE CONGESTION WITH MINOR AUTOLYSIS AND NO EVIDENCE OF SPECIFIC DEGENERATION OR ALTERATION OF THE TISSUE.

KIDNEY: THIS TISSUE IS VERY MINORLY CONGESTED, NO EVIDENCE OF ANY OTHER SPECIFIC INFLAMMATION OR DEGENERATION IS IDENTIFIED.

LIVER: THIS TISSUE IS ACUTELY CONGESTED.

STOMACH: THIS TISSUE IS ACUTELY CONGESTED WITH NO EVIDENCE OF SPECIFIC DEGENERATION OR INFLAMMATION.

MYOCARDIUM: THIS TISSUE IS ACUTELY CONGESTED WITH NO EVIDENCE OF SPECIFIC INFLAMMATION OR ALTERATION.

INTESTINE: THE INTESTINAL TISSUE DEMONSTRATES NO SPECIFIC ALTERATION ALTHOUGH THERE IS SOME MILD AUTOLYSIS IN THIS TISSUE.

ADRENAL: THIS TISSUE IS ACUTELY CONGESTED.

DIAGNOSIS: 1. ACUTE MILD CONGESTION OF ALL TISSUES.  
2. NO SIGNIFICANT LESIONS

COMMENTS: WE WERE UNABLE TO IDENTIFY ANY EVIDENCE OF ANY SPECIFIC DEGENERATIVE ALTERATION OF THE INTERNAL TISSUES IN THIS PARTICULAR ANIMAL. FROM YOUR DESCRIPTION, THERE CERTAINLY IS EVERY INDICATION OF SOME TYPE OF EXTERNAL PROBLEM IN THE INDIVIDUAL, BUT WE COULD NOT IDENTIFY ANY INTERNAL UNDERLYING PROBLEM. WE SUSPECT THAT ANY EXTERNAL DEGENERATION CAN BE THE RESULT OF A LOCALIZED DEGENERATIVE PROBLEM IN THE INDIVIDUAL OR POSSIBLY THE RESULT OF TRAUMA, BUT WE CERTAINLY COULD NOT IDENTIFY ANY OTHER UNDERLYING PROBLEM OF A DIAGNOSTIC NATURE IN THE INTERNAL TISSUES THAT WOULD EXPLAIN THE OVERALL CONDITION.





SAN FRANCISCO ZOO  
ZOO ROAD & SKYLINE BLVD  
SAN FRANCISCO, CA 94132

**VETERINARY  
REFERENCE  
LABORATORIES, Inc.**

OWNER'S NAME  
SF ZOO

ANIMAL NAME  
WHITEFRONTED

AGE

SEX  
M

VETERINARIAN  
MACHADO

ACC'T N. NO.  
112754708

SPECIES  
OTHER

BREED

RECEIVED

REPORTED

ROUTING

WHITE FRON 02/09/1987 02/12/1987 31-39-10

TEST PROCEDURE

HI/LO

TEST RESULT

UNITS

ADULT NORMALS

PATHOLOGIST

L. D. MCGILL, DVM, PhD, DIPLOMATE, ACVP

AXX FINEAL REPORT FAX



ATTACHMENT THREE

Curator of Birds Rebuttal Letter





11 January 1990

The Honorable Justice William Newsom, Jr.  
Court of Appeals  
350 McAllister  
4th Floor  
San Francisco, CA 94102

SAN FRANCISCO  
ZOOLOGICAL  
GARDENS

A DIVISION OF THE  
SAN FRANCISCO  
RECREATION &  
PARK DEPARTMENT

ONE ZOO ROAD  
SAN FRANCISCO  
CALIFORNIA  
94132-1090

PHONE  
(415) 753-7088  
(415) 681-2039

Dear Judge Newsome:

Happy New Year. I hope you had a pleasant holiday.

I am writing to you in response to the draft of the Animal Management Committee report. Much to my disappointment, I received this report via the keepers. The draft was not sent to the curators, but rather left in the keepers locker room. I would request that any future revisions be given to the curatorial staff as well so that we would be given a chance for further comment. For your information, this is the only subcommittee report that I have received.

I feel that my concerns for inadequacies at our zoo and areas that need improvement have not been addressed. Instead, this report focuses on primarily non-factual complaints about my job performance that I addressed in the attached written report in November of 1989. When I asked if my report was of value in answering the committees' concerns, I was informed that the report had not been read. I feel that the draft that has been put forth by the Animal Management Committee does not reflect the attached response. I had looked forward to constructive criticism that would allow for improvements in bird management at the San Francisco Zoo. Unfortunately, the draft falls disappointingly short in this area.

I wish you and the committee members the best of luck in finalizing a beneficial report that will enhance animal management at the San Francisco Zoo. If I can be of any further assistance in this endeavor, please feel free to contact me.

Because of the critical timeline, I have attached my original document and included responses to specific points made in the subcommittee report.

Best Regards,

*Nancy A. Schofield*  
Nancy A. Schofield  
Curator of Birds





Page 12.

Breeding and Group Management

This report states that most of the birds in the indoor aviary exist as lone individuals of their species and paired birds are the exception and not the rule.

Paired bird species include:

Scarlet ibis (generally seen in colonies as per natural history, but have bred in small numbers at SFZ)  
Sacred ibis (generally seen in colonies as per natural history, but have bred in small numbers at SFZ)

Coleto  
Crowned pigeon  
Nicobar pigeon  
Cape teal  
Laysan teal  
Philippine starling  
Spotted pigeon  
Hartlaub turaco  
White spoonbills  
Hill mynah

Inca terns are coming in January to compliment the lone individual. Requests have been made to other facilities for mates for other single specimens. The primary aviary keeper has been involved in some discussions with outside individuals.

Over half of the species exhibited are paired. Generally, walkthrough aviaries are difficult to manage for propagation purposes. They are used primarily for exhibit as the young are almost impossible to remove and the potential for inbreeding is high. For this reason, breeding programs are the focus of the smaller exhibits such as the cages between the siamangs where breeding has been achieved for the black and white hornbill and the great currawong. I have had the kookaburras sexed and am awaiting a mate for the kookaburras. (We have two males and one will be surplused and the other properly paired).

Colonial breeding has been set up for the flamingos and the penguins. Breeding programs have also been initiated for a number of species of birds of prey. We have successful reproduction for birds on the lakes including Egyptian geese, bar-headed geese and whooper swans. In all these cases proper nesting structures or materials were set up for these birds for the breeding season.

The report claims that there isn't any evidence that we are moving away from exhibiting unpaired birds and promoting the exhibition of breeding pairs. To assist in further reproduction of the avian collection at the SF Zoo, I ask that the committee recommend off exhibit holding and management facilities that I have requested for the zoo for the last 15 years. This would free up hospital space for quarantine. Currently, quarantine requirements for birds are for 45 days. There are 3 quarantine rooms at the zoo and they are utilized for birds, mammals, reptiles, and amphibians. It is very difficult, if not impossible, to increase our bird populations at the zoo without more quarantine space. On many occasions these quarantine rooms must be used for sick animals and this



precludes bringing in other animals in a timely fashion. This is a major problem at the SFZ.

The report goes on to say that there is not a theme or a story. In the attached material I have delineated how acquisition of birds for the indoor aviary and outdoor facilities will fit into the Zoo 2000 Master Plan. I have also outlined a plan for the bird collection at the SFZ. Birds that have been acquired recently are primarily from Southeast Asia and will be exhibited in the newly planned Southeast Asia exhibits.

The report states that the keepers recommendations are never considered. Clearly that is not the case. Nest boxes are discussed with the keeper staff prior to construction. The keeper has worked with the curator and the maintenance staff to develop these structures. Keeper input is solicited in areas of reproductive management, exhibits and nutrition. Implementation includes dietary changes for the black and white hornbills, the planning for moving the flamingos to the lake and the trumpeter swans to the current flamingo exhibit, removal of concrete structures in lower lake, etc. The committee report states, as an example of a keeper suggestion that is not adhered to, that the waterfowl exhibit would be improved greatly if a simple recirculating pump structure were implemented. In October 1989, because of this keeper request, the firm of Rhodes/Dahl hired an engineering company that specializes in this area to evaluate the proposal and make recommendations for implementation. It should be noted that this firm was responsible for the water systems, including filtering, at the Monterey Bay Aquarium. Their expertise has clearly been proven to be superior.

According to the report there is little commitment on the part of the curator to move the collection forward and establish a good living, breeding bird collection. Since I have started as bird curator 2.5 yrs ago we have initiated a number of propagation programs for the collection. These have resulted in reproduction in several species of waterfowl, flamingos which had never bred at the SFZ and the most successful breeding colony of Magellanic penguins in the world. Additionally, all unsexed birds have been surgically sexed (including the Bali mynah) which the report particularly states have not been sexed. As quarantine space becomes available, we will find mates for unpaired birds.

#### Animal Dispositions

In response to page 13 regarding animal disposition, it says that birds are not properly housed. I do recommend again that you support our off exhibit holding plan that is attached in the supplemental material. The report also refers to toxic chemical fumes in holding areas. There has never been a report made to me of this condition. If this is the case I would like immediate confirmation and we will deal with this situation. We have been reviewed by both USDA and Cal Osha and have received no citations for toxic fumes. The report, in a number of places, refers to caging sizes that are clearly not true. For instance, it says that the Bali mynahs are housed in a 3x4 cage. The cage is actually 6 x 6 x 4 in size. It says the crowned pigeons were housed in small cages. The cage was 37 ft 9 inches in front and 23 ft deep.

This report also states the outdoor aviary has been in state of





decay for 1.5 years as have the species that it houses. A comprehensive trapping program was set up for the birds in this cage so renovation could be made. Trapping methods including use of mist nets, standard nets, noose traps etc. were utilized. All birds were trapped and placed in housing here and offsite so that renovation could be undertaken. We have removed trees and bulldozed part of the exhibit. We have acquired manzanita trees to replace the large trees taken out of the exhibit. Prior to the demolition of the exhibit, we met with the keeper staff, the gardeners, the pest control group and the maintenance dept. to come up with a comprehensive plan for this exhibit. Please see attached plan. The renovation is moving along slowly but surely. Additional funding has been requested for this project from the Zoological Society.

The report states the Laysan teal were held in 3' x 3' cages for over a year. They were captured, banded, medically tested, and released into the outdoor aviary shortly after testing was completed..

The report suggests holding plus management cages be built behind the aviary. I assume that means on the asphalt between the wolf and the aviary. The area behind the aviary mentioned in the report does not allow for natural lighting and is a very small area. It is much too small to accomodate the needs of a collection our size and it is very cold.

The report also states that I manage birds without conducting proper research. I would like you to know that it has been my practice to conduct literature searches on natural history plus captive management and surveys of other institutions dealing with our species. Please see the appendices that deal with literature searches and surveys.

Cyclical diet changes are made and have resulted in breeding for waterfowl, all species of cranes, black and white hornbills and flamingos, for example. Please see attached for the variety of diets. A wide variety of food stuffs is purchased for the birds at the SFZ.

We are concerned about quality of certain food stuffs that are purchased without quantified analysis. These food items would include rodents, fish and chicks. We have worked out a system with Dairy and Food Labs of SF. They pick up samples of food stuffs for us and analyze protein and fat analysis.

The curator and veterinarian staffs have requested a contract with a nutritional firm that does dietary analysis for zoos. This firm has been utilized by at least a dozen zoos in the United States. This allows us to look at our overall nutritional management program for all animals at the SFZ including daily diets, annual cyclical changes, and food delivery. It would also make recommendations in the improvement of commissary and kitchen operations.

It seems to me it might be useful for the committee to note that nutrition has always been personally important to me. The Zoo received a Federal Grant to study the effect of diet and feeding regime on growth rates in Magellanic Penguins. This is a continuation of the research that was completed for my Masters thesis during the years 1985 through 1987.



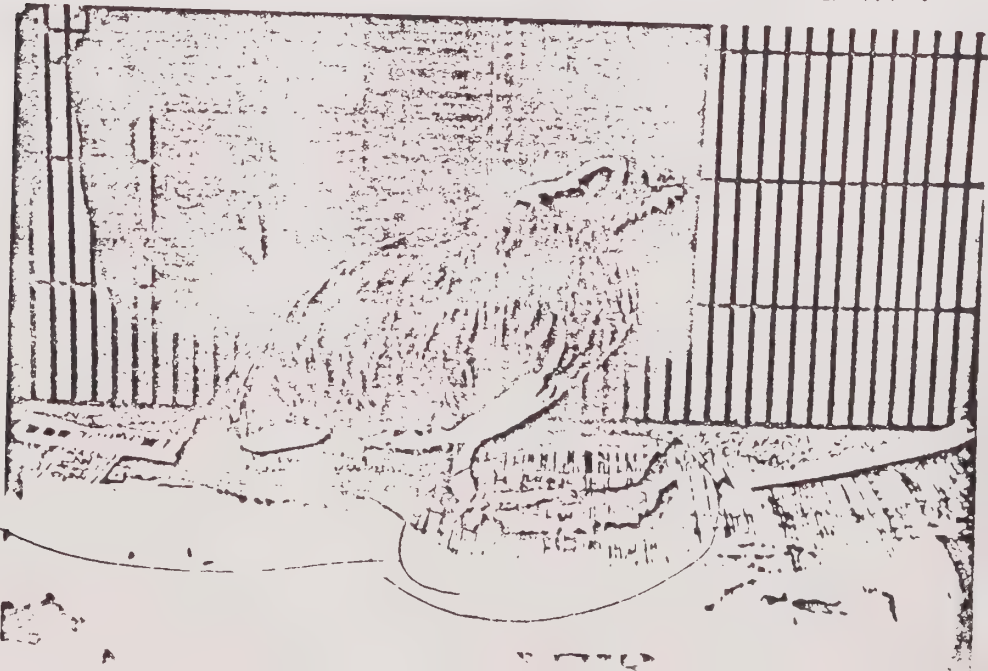


## ATTACHMENT FOUR

### Thicknee Reports



frostbitten  
sections of  
feet.



note  
bird cannot  
stand.



AVIARY

DECEMBER 1987

12/1 Moved 4 Laysan teal, Cape Teal, 1 shell duck, 1 cuban duck, 1 Red head  
all to outside aviary, doing fine

12/2 Death of one American Red head, male, band #75 outside aviary, found  
drowned, attacked by rats sometime before or after. looked dry on high ground  
at 4:30 last night Amiot

12/3 RNR

12/4 RR Amiot

12/5 O.O.1 flamingoes with ear problem not eating with rest--outside aviary  
ducks OK--cleaned Bentall

12/6 O.O.1 flamingo ate today Bentall

12/7 & 8 RNR

12/9,10 RNR

12/11 transferred 3 Sacred ibis Amiot

12/12 thru 16 RNR

12/17 RR Amiot

12/18 RNR

12/19 cleaned Bentall

12/20 cleaned Bentall

12/21 RR Amiot

12/22 RNR

12/23 RR Amiot

12/23 water heater shut off Moyles

12/24 thru 26 RNR

12/27 RR Wihler

12/29 RNR

12/30 O.O.1 cape teal, found in drain sump for outside pool, note to NS to leave  
directions to close lid so birds can't fall in--numerous rats, cleaned and bleached  
Bentall

12/31 one shelduck from outside aviary to inside aviary, holding cage in back  
shelduck under heat lamp, down this AM, couldn't walk but good appetite. soaked to  
skin. Thicknee a little down. set up feed dishes for birds in indoor small holding  
cages. ducks from indoor aviary, esp. thicknee, are being exposed to very cold  
temperatures after living inside at warm temps. for many years. I think thicknee  
should come inside and the duckies outside should be given a heat source. Import  
outside ducks get lots of cut fish in pan near water as they need a lot of KCels  
right now Horblit





AVIARY

JANUARY 1988

1/1 African shell duck to hosp. thick kneed plover looks stressed Moyles  
1/2 & 3 RNR  
1/4 need to watch for power outage, if it should go out RESET Amiot  
1/5 Crowned pigeons need to be out of cage inside aviary . workman need that space Amiot  
1/6 thru 8 RNR  
1/9 0.0.1 Crowned pigeon found dead in cage in AM---0.0.1 Thickneed limping out side aviary, crowned pigeons drinking lots of water filled 3X's and put in another bowl of water Bentall  
1/10 0.0.1 Ringed teal found dead in AM, Thicknee still limping swelling on left leg above foot Bentall  
1/11 RR Amiot  
1/12 RNR  
1/13 Drains inside Aviary are backed up Amiot  
1/14 0.0.1 thick knee to hosp. see attached---Indian hill mynah carrying nesting material Horblit  
1/15 Nancy we need to talk, if you have something thats needed to be done talk to me first. I did not know what you wanted to do with birds. Looked for you all day. the cages can be washed, drains are fixed, do not put food down drains. Please move pigeons to E. house before you lose them all Ron Amiot  
1/16 thru 18 RNR  
1/19 One nicobar pigeon in holding cage sent to hosp. autopsy room, dead Amiot  
1/20 thru 22 RNR  
1/23 0.0.2 flamingo have runny eyes, 0.0.1 Nicobar pigeon has bare spots on back and neck, being picked on, isolated in PM in another cage---0.0.1 Cuban tree duck has drooping left wing, looked OK in PM Bentall  
1/24 Medicated zebra dove--0.0.1 Cuban tree duck left wing drooping, looked OK in PM, 2 flamingoes have darness around eyes, not running, could be dark plumage cleaned and bleached hornbill pool Bentall  
1/25 RNR  
1/26 moved 3 ringed teal to outside cage with others--moved 2 cape teal to outside aviary---both look OK at 4:30 Amiot  
1/27 RNR  
1/28 RNR  
1/29 RR Moyles  
1/30 Med. zebra doves head---white pelicans not eating herring so I put out 2 boxes of smelt for tomorrow, cleaned Bentall  
1/31 RNR



Amia

The thick tme I reported as going down three weeks ago is now really down. It's lethargic, very thin, has lost all its toes and has open wounds on its legs. Frostbite?

The mountain quitch is looking off. The zebra dove in the airline carrier has weird lesions on its legs & feet. I found its vent caked with dried feces. It had no perch to get off the ground. I cleaned its vent & I have it under a heat lamp that belongs in the PDC, which I would like returned. It has taken a bath & looks better. Vet Tech took fecal swab.

The columbigorns are seed-eaters and need to have that & grit in their diet. Since they have been "surviving" on gamebird & wheat bread over the years, it is suggested that they are put on the seed slowly & then given grit. Their crops probably don't have the elasticity to handle seeds & grit & may tear if suddenly introduced to a new diet.

P.S. zebra dove was by an open gas leak near water heater. Guy taped the pipe but the hole is still there as I found it.

There is seed in  
bird of aviary no



Specimen Report  
SAN FRANCISCO ZOOLOGICAL GARDENS

Report Date:  
30 Jan 1987

Taxon Name: BURHINUS BISTRIATUS  
Common Name: DOUBLE-STRIPED THICK-KNEE

Accession Number: 27948  
Acq. Date: 8 Nov 1979

Current Status >>>

Age: 7Y,8M,1D  
Time on Inventory: 7Y,3M,24D  
Tattoo:  
Studbook Number:

Sex: Unknown  
House Name:  
Tag/Band: 79-49  
Enclosure:

Birth Type: Captive born  
Birth Location: CHICAGO LP  
Birth Date: 1 Jun 1979

Transaction History >>>

#	Terms/Party	Their Spec. Id	Date	Price	Delivery
1	Loan from CHICAGO LP: LINCOLN PARK ZOOLOGICAL GARDENS	UNK	8 Nov 1979		

Special Data & Comments >>>

	Code/Text	Date
1	Tag/Band 79-49	8 Nov 1979









# ACTIVE TREATMENT PLAN

PORT TE	PROG. #	PROGRAM	GOAL AND PLAN
	<p>8a .</p> <p>315</p>	<p>Bird is sitting (on launchers) elbows.</p> <p>Discussed w/ Nancy Acupunct. euthanasia</p> <p>3.4.5cc Chloro - Hot packs</p> <p>No improvement... not eating - very shaky</p> <p>Persolair 3cc euth.</p> <p>tissues to VRL multiple Biopsy</p> <p>no blood supply to the digits - both</p> <p>feet . very necrotic</p>	



## ACTIVE TREATMENT PLAN

START DATE	PROG. #	PROGRAM	GOAL AND PLAN
1/13/87		Pulled from aviary. Placed in O <sub>2</sub> Gave 15cc fluids p.o. w/ Dextrose/URS B vit. Gave 15cc SQ .1cc Dexason IM 1/4 cc Lasix IM 0.2cc Septa IM	
1/14/87		0.2cc Septa IM - standing	
15 Jan 87		returned to aviary	
27 Nov 87		T.B. test neg.	
14 Jan 88		Hx: Placed outside about 2 weeks ago. Frost bite both feet, worse on right foot. Thin. BAND # 79-49 METAL Removed wt - 9.8 lb = 4.3 kg Chloro IM 3.45ml (345mg) BID <u>&amp; TID</u> Lightly anesthetized with Isoflurane. Scrubbed both feet and discolored areas of knees with betadine scrub for ~7 minutes. Expect at least 2 toes on Right foot to be lost, (stuff) they are dry and "crunchy" as though no blood flows to them. Multiple areas 1-2 cm in diameter of ulceration <sup>on feet + ankles</sup> . Applied topical betadine ointment to affected areas. Multiple white/creamy plaques in mouth on palate, tongue + gums. Culture + sensitivity submitted.	
JAN 88		Chloro 3.45cc (345mg) B.I.D. <del>XXX</del> WASH Both feet + discolored areas of knees w/ Betadine scrub. Hx: Packed Both feet BID <del>XXX</del> Bird is eating. <u>THIN</u>	





32013 415-664-2228  
SAN FRANCISCO ZOO  
ZOO ROAD & SKYLINE BLVD  
SAN FRANCISCO, CA 94132

OWNER'S NAME  
SF ZOO

ANIMAL NAME  
7949LP26F

AGE SEX

VETERINARIAN

ACC'N NO  
N4060958

SPECIES  
AVIAN

BREED RECEIVED REPORTED  
NOT STATED 11/24/1987 11/27/1987

ROUTING  
84-39-10

TEST PROCEDURE  
-----

HI/LO TEST RESULT UNITS  
-----

ADULT NORMAL  
-----

MICROBIOLOGY

ACID FAST STAIN

ACID FAST STAIN

NO ACID FAST BACILLI SEEN

DATE ENTERED

11/27/87

MICRO NUMBER

767



# INACTIVE PROGRAM

DATE BEGUN	PROG. #	PROGRAM	INACTIV.	RE-ACTIV.	COMPLETED	RE-DEFIN



# INTER-DISCIPLINARY ENTRIES

DATE TIME	PROG. #	ENTRY	SIGNATURE TITLE





# PROGRAM MONITOR FLOW SHEET

PROGRAM NO:

**TITLE:**

DATE SHEET BEGUN:

OBSERVATION NO.

[illegible]



22013 415-664-2200  
SAN FRANCISCO ZOO  
ZOO ROAD & SKYLINE BLVD  
SAN FRANCISCO, CA 94132

VETERINARY  
REFERENCE  
LABORATORIES, Inc.

OWNER'S NAME	ANIMAL NAME	AGE	SEX	VETERINARIAN
ST ZOO	OPAL LESIONS			MACHADO

ACC'N NO	SPECIES	BREED	RECEIVED	REPORTED	ROUTING
N4234922	AVIAN	FLOVER	01/14/1988	01/17/1988	84-39-10

TEST PROCEDURE	HY/LS	TEST RESULT	UNITS	ADULT NORMAL
-----	-----	-----	-----	-----

MICROBIOLOGY

CULTURE I.D. ONLY

24 HRL PRELIMINARY REPORT

MODERATE GROWTH

GRAM NEGATIVE ORGANISM TO BE IDENTIFIED

FINAL REPORT

01/17/88

ORGANISM # 1

MODERATE GROWTH

PSEUDOMONAS AERUGINOSA

MICRO NUMBER

520

DATE ENTERED

01/15/88

MICRO NUMBER

598

SENSITIVITY # 1

ORGANISM 1

201. OXICACIN 1	S
202. AMPICILIN 1	R
203. ALBENTIN 1	S
204. CEFENDIOLEIN 1	S
206. CEFATAXIME 1	S
209. CEPHALORIDINE 1	R
210. C-LOXAMPHENICOL 1	S
212. DOXYCYCLINE 1	R
216. GENTAMICIN 1	S
217. KANAMYCIN 1	S
220. NEOMYCIN 1	S
223. PIPERACILLIN 1	S
224. POLYMYXIN B 1	R
226. SEPTRA (TRIFRISSEN) 1S	
229. TETRACYCLINE 1	R
231. TETRACYCLIN 1	S

INTERPRETATION :

S=SENSITIVE R=RESISTANT I=INTERMEDIATE



# VETERINARY REFERENCE LABORATORIES, Inc.

32013                      415-684-1228  
SAN FRANCISCO 700  
ZOO ROAD & SKYLINE BLVD  
SAN FRANCISCO, CA 94132

OWNER'S NAME	ANIMAL NAME	AGE	SEX	VETERINARIAN
SF ZOO	ORAL LESIONS			MACHADO

ACCOUNT NO	SPECIES	BREED	RECEIVED	REPORTED	ROUTING
N429-553	AVIAN	PLOVER	01/14/1988	01/16/1988	84-29-10

TEST PROCEDURE	HI/LO	TEST RESULT	UNITS	ADULT NORMALS
-----	-----	-----	-----	-----

MICROBIOLOGY  
CULTURE I.D. ONLY  
2- FOL PRELIMINARY REPORT

MODERATE GROWTH  
GRAM NEGATIVE ORGANISM TO BE IDENTIFIED

PRELIMINARY REPORT	PENDING
PRELIMINARY REPORT #2	PENDING
FINAL REPORT	PENDING
ORGANISM # 1	PENDING
ORGANISM # 2	PENDING
ORGANISM # 3	PENDING
ORGANISM # 4	PENDING
ORGANISM # 5	PENDING
MICAL NUMBER	PENDING
DATE ENTERED	01/15/88
MICRO NUMBER	598





20013 415-664-2286  
SAN FRANCISCO 94133  
200 ROAD & SHERLINE BLVD  
SAN FRANCISCO, CA 94133

**VETERINARY  
REFERENCE  
LABORATORIES, Inc.**

OWNER'S NAME	ANIMAL NAME	AGE	SEX	VETERINARIAN
ST 700	THICK KNEE	9		MASHADA

ACC'N NO	SPECIES	BREED	RECEIVED	REPORTED	ROUTING
N42379	AVIAN	POLOER	01/19/1988	01/20/1988	04-29-12

TEST PROCEDURE	HYALD	TEST RESULT	UNITS	ADULT NORMAL
-----	-----	-----	-----	-----

**HISTOPATHOLOGY**

IN HOUSE MULTIPLE BIOPSY

CODED DIAGNOSIS

KIDNEY - NO VISIBLE LESIONS

LIVER

A. MODERATE, DIFFUSE HEPATOCELLULAR VACUOLATION

B. MODERATE INTRACELLULAR BILE STASIS

C. REGIONAL CAPSULAR FIBROSIS WITH MONONUCLEAR INFLAMMATION  
(CAPSULITIS)

LUNG - SEVERE, DIFFUSE CONGESTION AND EDEMA WITH ARTERIOLAR  
THROMBOSIS

SPLEEN -

A. MODERATE, DIFFUSE FOLLICULAR LYMPHOID DEPLETION

AND RETICULOENDOTHELIAL HYPERPLASIA

PANCREAS - NO VISIBLE LESIONS

TESTICLES - NO VISIBLE LESIONS

SMALL INTESTINE - NO VISIBLE LESIONS

HEART - SEVERE INTRALUMINAL THROMBOSIS (POSTMORTEM CLOT)

CODED COMMENT

THE MOST IMPORTANT INFLAMMATORY LESION IS IN THE HEPATIC CAPSULE,  
WHERE MONONUCLEAR CELLS ARE ASSOCIATED WITH CAPSULAR FIBROSIS BUT NO  
NECROSIS OR INVOLVEMENT OF THE HEPATOCELLULAR PARANCHYMA.  
VASCULAR EDEMA IS THE RESTRICTED TO THE LUNG AND HEART WHERE THERE  
IS EVIDENCE OF ACUTE CONGESTIVE HEART FAILURE (PULMONARY EDEMA  
AND CONGESTION) AND THROMBOSIS. THERE NO EVIDENCE OF INFECTIOUS  
DISEASE. THE HEPATIC CAPSULAR LESION IS NEARLY RESOLVED AND  
DOESN'T HAVE BEEN TRAUMATIC OR OTHER IN ORIGIN. CAUSE OF DEATH  
IS NOT PROVEN, BUT PULMONARY CONGESTION/EDEMA AND BELIEVED TO  
BE TERMINAL LESION RATHER THAN CHRONIC.

MICROSCOPIC

MULTIPLE TISSUES ARE SUBMITTED FROM A 9 YEAR OLD, POLOER  
(THICK KNEE).

KIDNEY: NO VISIBLE LESIONS.

LIVER: THERE IS MILD HEPATOCELLULAR VACUOLATION, INTRACEL-  
LULAR AND INTRACANALICULAR BILE STASIS, AND REGIONALLY  
CAPSULAR FIBROSIS WITH MONONUCLEAR INFLAMMATION.  
PULMONARY.

SMALL INTESTINE AND PANCREAS: NO VISIBLE LESIONS.  
DIFFUSE ALVEOLAR EDEMA AND ARTERIOLAR THROMBOSIS.



31013 4 2-604-11  
SAN FRANCISCO 200  
200 ROAD & CHILLINE BLVD  
SAN FRANCISCO, CA 94132

# VETERINARY REFERENCE LABORATORIES, Inc.

OWNER'S NAME	ANIMAL NAME	AGE	SEX	VETERINARIAN
ST 200	THICK KNOT	3		MACHADO

ACCN NO	SPECIES	BREED	RECEIVED	REPORTED	ROUTING
143275-1	AVIAN	FLOWER	01/10/1988	01/20/1988	04 55 13

TEST PROCEDURE	HYDRO	TEST RESULT	UNITS	ADULT NORM
-----	-----	-----	-----	-----

INFLAMMATION SCATTERED RANDOMLY THROUGHOUT THE PULMONARY PARENCHYMA. BLOOD VESSELS ARE WIDELY DISTENDED WITH LAYERS OF DEGENERATE RED CELLS, FIBRIN, AND DEGENERATE CELLULAR DEBRIS. (POST-MORTEM CLOT).

SPLEEN: THERE IS MODERATE DEPLETION OF LYMPHOID FOLLICLES AND SOLITATION OF RETICULOENDOTHELIAL CELLS WITHIN THE LYMPHOIDS.

THROAT, TESTICLES, SMALL INTESTINE, NO VISIBLE LESIONS.

HEART: THE MYOCARDIUM IS UNREMARKABLE, BUT THERE IS DENSE DEPOSITIONS OF DEGENERATE RED CELLS, FIBRIN, AND DYKNOTIC HAPTORRHECTIC CELLULAR DEBRIS IN LATE PHASE ADHERENT TO THE INNER SURFACE OF THE MYOCARDIUM AND AORTA (POST-MORTEM CLOT). THERE IS NO INFLAMMATION OR NECROSIS OF MYOCARDIAL FIBERS.

PATHOLOGIST

DR. J. M. MACHADO, DVM, PhD.



5440 54401500 200  
 100 5440 54401500 200  
 100 54401500 200 54401500

ADD'N NO	SPECIES	BREED	RECEIVED	REPORTED	ROUTING
N63378-1	ADAM	BLACK	1970-01-01	1970-01-01	1970-01-01





ATTACHMENT FIVE

Memo per Bird Diet Changes



INTER-DEPARTMENTAL MEMORANDUM  
OFFICE OF THE RECREATION AND PARK DEPARTMENT

22 June 1989

TO Kitchen and Aviary Keepers  
FROM Nancy S.  
RE. Short String Diet

Please add 1 baggie of frozen vegetables to the short string diet. These go to the hornbills. The vegetables can be found in the walk-in freezer in a metal tub right as you walk in the door. Add 1/2 cooked yam. This goes to the currasows.

Short string keepers, please remember to add mud to the hornbills on a daily basis. Please do not clean the pool until the nesting season is over. Please spend as little time in this exhibit as possible. Feeding should be done from the same side as the mud.

Thanks for your cooperation. Please let me know if you have any questions.



ATTACHMENT SIX

Diet per Snow Leopard  
with  
Respect to Feeding Small Cat String





# ZOO NEWS



THE SAN FRANCISCO ZOOLOGICAL SOCIETY  
1 Zoo Road, San Francisco, California 94132-1098 (415) 753-7080, FAX 681-2039

## Zoo Advisory Committee

I wish to briefly comment on what I find to be an erroneous interpretation of the Animal Care Subcommittee Report, by Mr Mike Solak. He states in his rebuttal that it is totally illogical to change from the frozen Seline diet to a combination of chunk horse meat and chicken necks. In fact, the subcommittee report suggests to alternately feed chunk horse meat and Seline diet and to occasionally supplement chicken necks. Enclosed is a copy of an Animal Data Transfer Form from the Bronx Zoo concerning 'Shin' a female snow leopard sent here on a breeding loan. It indicates she was fed Seline diet five days a week and chicken necks twice a week. Furthermore, Mr Rick Custer, in his 37 years working our lion house has raised over 300 big cats on fortified chunk horse meat.

Sincerely,

Terry Mozles





# ANIMAL DATA TRANSFER FORM

1. Keeper receiving the animal
2. Zoo file/Veterinarian
3. Keeper sending animal

Date: 17 NOV 1988

Common Name Snow Leopard

Scientific Name Panthera uncia

Individual Name	Sex	Birth Date*	Weight*	Vendor Specimen # (ISIS #)	Zoo ID	Studbook#
1) <u>Shir</u>	<u>F</u>	<u>9 Jun 1985</u>			<u>851203</u>	
2)						
3)						

\*note if it is actual or estimated

Diet: Present diet and supplements, favored items, problem foods, feeding procedures.

3 lbs Wetnasha kibble per day, except Monday + Friday  
Get 2 1/2 lbs chicken backs. One knuckle bone per week

Brief Reproduction Record: Relative data, introduction techniques, behavior toward young, specific concerns.

General Medical History and Physical Conditions: Usual response to medicine, including immobilizing agents and their successful mode of administration, recurring physical problems and symptoms.

Wormed with Ivermectin 11/8/88 - for round worms  
Left ear tattoo #26

Enclosure, Maintenance Data: General exhibit description, cage mates, considerations to avoid abnormal behavior, cleaning and disinfecting procedures.

Unmanned (outside) in off exhibit holding area. Has access  
to inside den area at all times. Floor in den is cement,  
with nylon sleeping board. Outside area is gravel screening  
was on exhibit for awhile, (worked out well) with a glass front.

Personal comments

Shir is a sweet cat, loves people. Easy shifter,  
if you take it easy with her.

Present institution New York Zoological Society - Bronx Park

Previous institution \_\_\_\_\_

Future institution San Francisco Zoological Gardens

Form completed by Phil Steindler

Title Senior Keeper

Telephone 212-220-5041



EMPLOYEE RELATIONS SUBCOMMITTEE

1/25/90

Keith Eickman  
Margaret Burks  
John Alcaraz  
Dave Howe  
Noel Messenger  
Rick Hills  
Sophie Papageorge (convener)  
Sandra Keller





**ZOO ADVISORY COMMITTEE**  
**EMPLOYEE RELATIONS SUBCOMMITTEE**

- I. INTRODUCTION
- II. PURPOSE & OVERVIEW
- III. AREAS OF CONCERN
- IV. RECOMMENDATIONS
- V. BACKGROUND
- VI. CONCLUSIONS



## **I. INTRODUCTION**

The Employee Relations Subcommittee (ERS) comprised of seven members of the Zoo Advisory Committee (ZAC) convened in early May. This subcommittee held a series of meetings with the various agencies and staff levels of the Recreation & Park Department and the San Francisco Zoo (SFZ). We maintained open meeting sessions for all interested while remaining within the guidelines of the Brown Act with respect to quorum issues.

This committee concluded its evaluation after approximately 4 months of convening. We discovered that most of the issues in other aspects of the ZAC investigation seemed to constantly have a focal point at the employee relations level, thus expanding our investigation in this area.

In order to avoid any consequences of not investigating thoroughly we met with zoo keepers, senior management staff, the Union representative, and Recreation & Park Dept. staff. We received a great deal of information and cooperation from all members of these groups except the senior keepers of the SFZ senior management team.

Management is defined as the act, art or practice of administration.



## II. PURPOSE & OVERVIEW

At the beginning of the ZAC we toured in our respective subcommittees and realized that there were serious problems pertaining directly to employee relations -- management to staff and vice versa. As a result of these employee/management issues the daily and long term care and management of the animals is being adversely affected.

Our subcommittee proceeded to examine the factors resulting in such poor relations. Once these factors were identified we compiled recommendations which we feel are crucial to satisfying essential and intertwined needs of animals and animal keeper staff. The animal collection will not and cannot flourish until the mismanagement of the zoo and its deleterious impact on depressed morale is corrected.

The former director initiated a management style and structure which has led to the current deteriorated condition, both physical and curatorial, at the SFZ. The resignation of the former director is not enough to alleviate these conditions because the structure he installed remains. Further action with respect to "housecleaning" of the management and employee structure in place at the SFZ is crucial to bring the SFZ to world class standing. The City of San Francisco has an opportunity to take a lead and make an ethical and progressive commitment to manage these captive creatures properly, and set standards for other zoos to measure up to.

Lastly, the keeper staff is suffering from lack of management and leadership. They are requesting and seeking leadership and come up against dead ends with most of the senior management staff. This along with the depressed morale can lead to a decrease in productivity on the part of the keepers and in turn decreases the best possible care for the animals.





### **III. AREAS OF CONCERN**

- 1. Accountability**
- 2. Management**
  - leadership/morale
  - failure to identify and resolve problems
  - communication
  - staffing/overmanagement
  - favoritism
  - training/education
  - health and safety
  - stress management
- 3. Grievance Procedures**
- 4. Job classifications/job requirements**



#### IV. RECOMMENDATIONS

##### 1. Accountability

Management must be accountable. Accountability must begin with the director and maintained in all areas at all levels, including middle management, veterinary staff, curator staff and keepers. The mechanisms for accountability exist, but the implementation does not.

##### 2. Management

MANAGEMENT must manage.

Management **MUST** manage.

Management must **MANAGE**. (Managing by Harold Geneen)

a. Increase **communication** between keeper staff and management by holding regular mandatory (for all appropriate individuals) meetings.

b. Establish an organized formal training program for keeper staff along with clear protocols for all animal areas, emergencies and health and safety issues, (see animal care section for detail on protocols). Explore the possibility of establishing an apprentice keeper training program organized by the municipal area of the zoo. (see discussion per LA Zoo program).

c. Overmanagement and understaffing. Senior Keeper positions to be **defunded**. These individuals then to be absorbed back into keeper level staff due to shortage of working keepers at the SFZ.

3. Grievance procedure must be handled expeditiously.

4. **Enforce** job descriptions. **Update** job requirements.



## **V. BACKGROUND**

### **1. LACK OF ACCOUNTABILITY**

This is by far the prevalent concern of this subcommittee (and of the committee as a whole). Numerous zoo staff have expressed concern about issues of accountability. There is a lack on the part of the director (previous or acting) to hold management accountable. Reports, primarily from keeper staff, were consistent in describing gross negligence on management's part with respect to executing sound animal care practices. Management must be held accountable for their actions.

Some of the topics lacking in accountability are:

- concerns of zoonotic diseases (vet care section)
- health & safety issues
- necropsies and reports to keepers of animal illness, injury (vet care section)
- dietary concerns for the animals (see animal care section)
- animal restraint, shipping, breeding management (see animal care section)

The lack of proper management has led to the keepers utilizing what knowledge they have to care for their assigned work areas. Fortunately, a good percentage of the keeping staff has greater expertise and education than most of the managers at the facility, thus allowing good judgement in animal care. However, many of the keepers would prefer to be given the opportunity to be good full-time keepers with excellent management guiding their efforts in propagating the zoo's animal collection and managing these animals.

### **2. MANAGEMENT**

Management realizes that problems exist but has not taken action to resolve them effectively or otherwise. Because management does not take action to solve problems, they proliferate. Once management identifies a problem then they do not do anything about the issue. Time lags between identification of problems and implementing solutions extend weeks and months. The issue of the elephant management protocols, which the zoo stated would be on-line as of January 1989, have still not been produced, one year later.





Please also refer to the discussion of the elephant protocol in the animal care section. This is a good example of management not utilizing available resources to finalize a protocol for working with the elephants. It has been one year since the unfortunate elephant accident injuring two zoo employees and, to date, the zoo still does not have a document outlining the procedures for working with the elephants.

"Leadership, of course, is the ability to inspire other people to work together as a team...others must want to follow the leader."(Managing by Harold Geneen p. 128) At the SFZ no one, in any staff level, points to the same person as "the leader", thus the employees do not know who is guiding their efforts. Any animal facility ought to be considered and directed as is any business. With the exception of the maintenance management, current management is satisfied with below average results and in many respects that is what they receive. Management, under the direction of the former and current "acting" director, has not set goals or a direction for the zoo to follow. Without an understanding of "goals" there is no unification of purpose.

Additionally, management has not implemented incentives to boost failing morale and inspire the employees to be more productive. Conversely, when employees show initiative, they are, in many cases, ridiculed or discouraged for their efforts by management.

#### **a. COMMUNICATION**

Historically the zoo has held no regular staff meetings. It is somewhat amazing that an organization can function without holding regular staff meetings at the various levels. Meetings assist in building team work and alleviating rumors, and assist in addressing them before they become insurmountable. Regular meetings allow you to define goals and assess the group's progress in achieving these goals.

It is important to establish meetings where management and keepers are interacting to promote excellent animal care. Currently, the keepers are not aware of animal moves, breeding issues, diet changes and other day-to-day management concerns pertaining to the animals in their charge. It would be helpful to them if they knew from their managers what plans were in line for their work areas. With such meetings they can discuss their concerns over various decisions being made by management. The keepers are the infantry in the firing line, and they know better than anyone else what is occurring with the animals in their care. Historically and currently, management rarely and



minimally consults with the keepers and discusses such issues. This has led in many instances to no/miscommunication and negligent decisions by management on many animal related concerns. Management has consistently failed to discuss and plan animal moves, diet changes, animal shipments, exhibit renovations, breeding plans and management of specific groups of animals with keeper staff. Again, the keepers are the individuals who know the animals and lend guidance in managing the specific collections of animals effectively. This is analogous to a parent knowing their child and having an ability to predict its next move or best understand how to approach it for a given situation, yet not be allowed to communicate that information.

## **b. TRAINING/PROTOCOLS**

The keeper training program needs to be updated and formalized so that the new keepers are provided with comprehensive instructions regarding their job function. Currently, we were not able to find written training protocol for new keepers. This is the responsibility of the director, curator staff and head keepers, and one they have failed consistently to fulfill.

We could not locate protocols for emergency situations at the SFZ. We've been told that such documents are currently being drafted; however, the fact that they don't exist is a serious management omission. All staff need training in handling emergencies. Responsibilities need to be clearly and precisely delegated. It is essential that management especially be trained in these areas. The paging system at the zoo is faulty. Should an emergency arise, as with our recent earthquake, most of the keepers in their various work areas would not be able to hear or understand emergency announcements by management.

We feel that management has been negligent for the past decade in failing to establish these protocols. This situation must be remedied immediately.

The zoo has a health and safety committee to address areas of concern, but most often management responds only after a matter is emphatically and repeatedly brought to its attention by those concerned. For the health and safety committee to be fully effective, management must respond more conscientiously.

Every work area ought to have conveniently posted, for daily keeper viewing, a directional protocol outlining the daily work performed for the care of the animals, along with animal diets, the supervisors in charge of the area and phone





extensions to call the office in the case of an emergency or problem.

### **APPRENTICE TRAINING PROGRAM**

As an alternative aid in staffing the SFZ may want to implement a program initiated by other zoos. Some zoos (growing in number) have initiated an apprentice keeper training program whereby, individuals interested in becoming keepers enroll in a zoo staffed course. There is course study and practical experience incorporated into the program. At the LA Zoo for instance, the director and other managers teach the course. The students also spend several hours a week working with the keeping staff and learn the daily techniques of maintaining captive animals. These people then have a knowledge and have been groomed by your own staff so that when a municipal exam is given to hire keepers, they are prepared for the exam and you've also had an opportunity to work with the individual at no expense, before you consider hiring them. This gives you an advantage in hiring qualified people that have worked in your facility.

### **c. SENIOR KEEPER STAFF LEVEL**

Most often cited as the major source of the majority of management and morale problems are the positions of Senior Keeper. The subcommittee recommends that this level of management be removed. The staff holding these four positions are desperately needed as keepers, of which there is a current shortage. According to the MOU, p. 7 section 12, these individuals can be incorporated into the keeper staff level and maintain the seniority they achieved up to the time they left the 3320 classification. There isn't a need as they now function for supervisory senior keepers. The senior keeper level adds to management an unnecessary beauracratc level, essentially devoid of productive function. There is a head keeper and an assistant head keeper which together with the curators can manage the staff.





### 3. GRIEVANCE PROCEDURES

The grievance procedure, as it stands now, is discouragingly time consuming. There are many delays once the grievance reaches the Recreation & Park Department office. Grievances must be handled expeditiously by the Recreation & Park Department.

This is a difficult and sensitive issue in the . The Recreation & Park Dept. ultimately hear the grievances by the keepers. Because the Recreation & Park Dept. is a beauracracy, historically favoring management, many zoo personnel feel that their grievances are tabled and not pursued in a timely manner. We feel it would serve everyone's best interest if the grievances could be monitored from the start by an objective third party.

It seems that this could be a direct function of Civil Service.

### 4. JOB DESCRIPTIONS/JOB REQUIREMENTS

#### a. JOB DESCRIPTIONS

The job descriptions are well written for all the positions at the zoo. Some of them reflect some crossover with other zoo areas, but this lends to a good cross-checking system to promote the best animal care. Members of the curatorial staff insist that they have too much to do in their job descriptions, but we found nothing out of the ordinary in these descriptions.

The biggest problem with the job descriptions, is enforcement. This again, is also an issue of accountability, and must begin with the director and her/his insisting that all staff members adhere to the descriptions as written.

Primarily, the curators, senior keepers (which per our recommendation should no longer be a staff level) and veterinarian need to fulfill their job descriptions and need to be held accountable where they do not. However, with the current individuals in place in these positions, we are not sure that accountability is enough to increase the quality of animal care at the SFZ from below minimum standards to excellent.

#### b. JOB REQUIREMENTS

The job requirements to qualify for various positions at the zoo require some updating. This will assist in placing educated, experienced and knowledgeable individuals in positions as they become available.



The director, veterinarian and curator of exhibits job requirements are sufficient, with the exception that the director ought to possess an advanced degree in a related field of study. The major necessary clarification of language is in the curator description and some in the keeper description.

The curator job requirement currently reads 'requires a degree from an accredited four-year college or university with major course work in zoology, a biological science, animal husbandry, or veterinary science, and one year of recent, full-time, paid experience in the handling, feeding, care, and breeding of animals in a zoo or other animal facility, or an equivalent combination of education and experience', and we recommend that it be upgraded to read 'requires a degree from an accredited four-year college or university with major course work in zoology, a biological science, animal husbandry, or veterinary science. One year of recent, full-time paid experience in the handling, feeding, care, and breeding of animals in a zoo or other animal facility.' This will ensure that individuals with proper experience and exemplary education only will fulfill the curatorial function at the SFZ. Most zoos, and ours seems to be one of the few large zoos with this exception, fill curatorial staff positions with individuals who have accomplished Masters or Ph. D degrees. The evolution of knowledge currently in the "zoo world" has flourished in the past 10-15 years, thus expanding the scope of such positions to require a greater breadth of knowledge. This new wave of thought has not permeated the job requirements of these positions in our Civil Service system for the SFZ.

The keeper job requirements also need to be refined to minimally include four years of related experience of which two must be paid, or a two year degree in a related field of study plus two full years of experience.

In addition, the Civil Service system, must also build in language for all positions at the zoo to reflect hiring employees with good judgement and a conscientious animal ethic of solid morality.



## **VI. CONCLUSIONS**

Clearly, proper management must be in place in order for the staff to function. The keeping staff is asking for leadership and direction from the upper echelons of management. We have heard statements which point to this specific issue, especially when we hear the keepers say that nowhere have they received such good pay, done so little work and been so miserable. The lack of leadership and ensuing motivation would definitely lead to such feelings.

1. With the advent of a new director we would like him to consider the issues presented in this document.

2. That the new director implement an incentive-reward program which acknowledges exceptional/unique performance by the staff and also holds all employees equally accountable for their job functions.

3. That Rec. & Park Dept. better understand the function of a zoo and its unique employees and purpose.

4. That the grievance procedures be heard by an impartial third party in civil service and not Rec. & Park Dept.

5. Regular meetings be scheduled for various work areas senior management staff.

6. The senior keepers be defunded and those individuals assume responsibilities as keepers--positions greatly needed at this time.





## **FACILITIES SUBCOMMITTEE OUTLINE**

- I. INTRODUCTION
- II. PURPOSE & OVERVIEW
- III. FACILITY DESIGN
  - A. OUTDOOR ENCLOSURES
  - B. BEDROOM FACILITIES
  - C. KEEPER NEEDS
  - D. VETERINARY FACILITIES
- IV. CASE STUDIES
  - A. PDC
  - B. KOALA
  - C. GORILLA WORLD
- V. ZOO 2000
- VI. CONCLUSIONS & RECOMMENDATIONS



## **I. INTRODUCTION**

The facilities subcommittee (Burks, Eickman, Erickson, Hills as convenor, Messenger) toured all major animal facilities of the San Francisco Zoo (SFZ) in order to assess the buildings and enclosures in which the animals are housed and the keepers work. The principal or relief keeper of each facility accompanied the subcommittee on its tour of that facility.

At its first meeting, subcommittee members P. Burks and R. Hills, each submitted a separate written proposal for evaluating captive animal enclosures to the subcommittee. (see attachment #1).

Subsequent meetings consisted of the facilities tours, immediately followed by discussion sessions among the subcommittee members.

One meeting was devoted to a presentation of Zoo 2000 by the design team, consisting of Rhodes-Dahl, project managers; Esherick & Homsey, Dodge & Davis, architects; The Portico Group, zoological architects; and Margaret Burks, Brandy Pound and Ken Gold of the San Francisco Zoological Society staff. (Ms. Pound has since left the staff.) Additionally, Cathy Simon, principal architect of the Primate Discovery Center, toured the PDC and met with the subcommittee during its meeting devoted to that facility.



## **II. OVERVIEW & PURPOSE**

This report is written to provide a comprehensive overview of the animal facilities at the SFZ and to make recommendations for improvements in facility design, maintenance and long-range planning.

A wide variety of animal facilities exist at the SFZ, from a large number of cages and enclosures built by the Works Progress Administration (WPA) during the 1930's to the Primate Discovery Center (PDC) completed in 1985. The subcommittee sought to investigate each in terms of four essential elements: outdoor enclosures, bedroom facilities, and veterinary and keeper needs.

Through its tours with keeper staff, the subcommittee became well-informed about the necessary elements for properly housing wild animals at the SFZ. This report consists of a general analysis of the SFZ's facilities from the standpoint of the four criteria mentioned above, followed by more detailed case studies of the most recent exhibit constructions. The conclusions and recommendations from this investigation are designed to enable the Board of Supervisors to gain a better understanding of the complex requirements of zoo exhibit design, the improvements required for existing facilities and suggested guidelines for future exhibit design and construction.





### **III. GENERAL OVERVIEW OF PRESENT FACILITIES**

For the sake of cohesion and organization, the outdoor enclosures, bedroom facilities and keeper needs of the facilities at the SFZ will be grouped into several broad categories, such as hoofed stock exhibits, carnivore exhibits, the older primate exhibits, the African Scene, aviaries and miscellaneous exhibits (i.e., otter and sea lion pools). Other exhibits are discussed separately in the case studies.

#### **A. OUTDOOR ENCLOSURES**

**Hoofed stock exhibits:** Generally speaking, the hoofed stock yards are spacious and capable of housing, by traditional zoo standards, a sizeable group or herd of each given species. Although substrate is an important aspect of every zoo enclosure, this is even more so in the case of hoofed stock. Ungulates of the types exhibited at the SFZ often roam over large areas in the wild, which has the effect of keeping their hooves trim. Deprived of this movement in a zoo setting, the animals' hooves can quickly become overgrown.

One way of preventing this problem is by providing a sufficiently hard substrate. This has been done in the llama, mountain goat and portions of the black rhinoceros yards, which contain redrock and granite. Other ungulates, such as tapirs, waterbuck and water buffalo, are adapted to life in swamps and other wetlands and do not require a hard substrate in their zoo enclosures.

Certain problems with substrate exist in the SFZ hoofed stock exhibits. One of the most glaring is Musk Ox Meadow. Although spacious, the enclosure was originally designed to house tule elk, which inhabited what were once the grassy marshes of the San Joaquin Valley. The yard contains thick, spongy grass. Musk ox are nomadic and live within the Arctic Circle. They roam great distances over hard rocky surfaces. The substrate of the Meadow has caused hooves to overgrow easily. Mobility problems have resulted. Long twisted hooves are also likely points of entry for potentially harmful bacteria in the fecal matter on which the animals step.

A separate yet related problem with Musk Ox Meadow needs to be mentioned here. For nearly two years, a ruptured water main connected with nearby treatment facilities leaked sewage into the yard. This was the probable source of the salmonella infection that led to more than one aborted musk ox fetus in the field and the deaths of several adults. Although the problem might since have been corrected, point the lack of a net increase in the musk ox population over the last decade has been largely a facilities problem.



**Carnivore Exhibits:** Although originally constructed during the 1930's, the main row of bear grottos and the outdoor enclosures of the Lion House are admirable in several key respects. They are functional, fairly large, and provide for the animals' physical needs. The pool in the polar bear enclosures, for example, is approximately 10' deep. Although the concrete in the bear grottos may seem harsh, it is easy to clean and thus keeps disease contagion to a minimum.

The concrete flooring of the outdoor Lion House enclosures was removed during a 1982 remodeling. The foliage, trees and scratching posts are more stimulating for the cats and offer them privacy from the public and each other and are certainly more pleasing from a human, aesthetic point of view. The rounded cobblestone substrate is a poor choice for the cats, however, who find it uncomfortable to walk on and to lay on. They seem to avoid it. Additionally, one of the grottoes contains a major pigeon problem that needs to be addressed as a potential animal health problem.

At first blush, the row cages for the cats are extremely offensive to human sensibilities, appearing as nothing more than aging, oversized concrete boxes in which snow leopards, jaguars, mountain lions and other beautiful, graceful felids do nothing more than pace and sleep. Closer look reveals, however, that they are functional. Breeding takes place regularly; mountain lions, Persian leopards, and endangered snow leopards have all produced cubs. Permanent access to their bedrooms gives the animals privacy.

It is not intended here to suggest that these row cages are satisfactory facilities. They are not. The ever-present concrete creates problems with the animals' paws. The fencing in some of the cages is rusting. The Lixits (A Lixit is a special faucet that dispenses water when the animal applies pressure with its mouth), although they cut down on water consumption, drip and cause algae to accumulate.

The point to be made here, however, is that it is important not to anthropomorphize when examining an animal facility. What is repugnant to humans is not necessarily repugnant to animals. (The reverse is also true: what is pleasing to humans is not necessarily pleasing to animals, as will be discussed elsewhere in this report.) Felids such as those exhibited in these row cages are notoriously sedentary, both in the wild and in zoos. As a rule, they are only active when mating and hunting. Because this latter activity is removed in a captive setting, one is left with animals that spend much of their time sleeping. It is of course preferable to provide these beautiful felids with more space and natural elements, rather than concrete and steel. The cats, however, will still spend the majority of their time resting and sleeping in such surroundings.





**African Scene:** With few exceptions, these enclosures are large, adequate and functional. The giraffe and mixed species exhibits (zebras, cranes and storks) are spacious and have good substrates. The African elephants do not have much of a problem with their feet, in marked contrast to the Asian elephants. This is possibly due to the difference in substrates between the two yards: the African yard is composed of a natural earth floor, while that of the Asian yard is concrete.

One glaring exception to the spaciousness of the African Scene facilities is the hippopotamus pool. Given the size of its inhabitants, the pool's miniscule dimensions and utterly useless island plopped in its center make it little more than a cramped bathtub. "Hippopotamus" means "river horse" in classic Greek. To display the amazing grace and agility in the water of which these animals are capable, a much larger pool is needed.

**Miscellaneous Facilities:** The otter pool is deficient in every major respect. The public "tops" the animals from 360 degrees, often dropping objects into their pool. Unless they climb into the small wooden box that serves as their den, the animals cannot escape the public eye. Perfectly circular, the enclosure is made up entirely of concrete.

**Older Primate Facilities:** Triple Grotto is the 3-ring concrete cloverleaf that houses the chimpanzees and orangutans. As noted elsewhere in this report, its bedrooms are adequate. The outdoor moats, however, are small and uninteresting. The public surrounds the apes from 180 to 270 degrees.

A 4-phase project has been started to improve the enclosures. It was designed pro bono by Peterson and Associates at the request of the Acting Zoo Director. The project calls for the installation of a kitchen and toilet in the rear service area, better climbing structures, and planting and other improvements around the grottoes to reduce animal exposure to the public. The final, most costly phase is to reshape and resurface the floors of the yards and enclose the grottoes.

Its overall merits aside, the plan has at least two benefits. It provides short-term improvement for the animals at relatively low cost. Secondly, the renovations (and costs) come in phases and are optional.

The Siamang Cages are located at either end of the aviaries across from the Triple Grotto. Although these cages are small and made of concrete and steel, the siamangs do well in them. The SFZ has two healthy breeding groups of this lesser ape from Southeast Asia. It is not entirely clear how the two enclosures contribute to that success. They are square with concrete floors and chain-link fencing.





The outdoor cages themselves have difficult-to-clean drains. The western cage is exposed on three sides to the elements and does not contain any shade areas for the animals.

Monkey Island is the large rocky structure surrounded by a moat at the eastern end of the SFZ. When constructed nearly 50 years ago, it was a top-rate, innovative facility. In many respects it still is. It is large, naturalistic and capable of housing a sizeable group of primates. This allows for ample interaction among troop members, unlike several of the smaller PDC enclosures (see below).

The problems with Monkey Island as a facility include the lack of a sink for the keepers, a single bedroom entrance for the animals, a 2000 gallon moat that is only cleaned by adding 8 gallons of chlorine twice weekly, an island that attracts seagulls and their feces. Perhaps the biggest ongoing problem is that the island takes from two to four hours to clean properly; the keepers who work it have little more than half an hour in which to do the job, given the demands elsewhere on the string.

## **B. BEDROOM FACILITIES**

Several critical facts about this aspect of an animal facility must be discussed. Traditionally, this is part of a zoo that the public never sees. Conscious of budgets constraints and attracting and satisfying the paying zoo visitor, zoo management and architects who design zoo facilities have traditionally minimized expenditures on bedroom facilities. Consequently, they are usually nothing more than small pens where the animals are put at night.

At the same time, it must be remembered that the bedroom facility is where most zoo animals spend the better part of their lives. Their daily living pattern is usually that of the employees who are charged with their care and the public who pays to see them. The animals are in their outdoor enclosures from the time the keepers are able to put them outside for public display in the morning until the same or a late shift keeper puts them back inside after the public has gone home in the evening. This means that the animals spend an average of 14 to 16 hours every day in so-called "holding pens" on which costs have been kept to a minimum.

If zoo architects, management and others responsible for the design, construction and maintenance of a zoo facility think of the bedroom facilities as "holding areas," "catch cages" or "off-exhibit pens," then that facility as a whole will be inadequate. This is because the physical and psychological well-being of its inhabitants is compromised if the area where they spend 14 to 16 hours a day is not thought of as an important, dynamic part of the exhibit.



Given this perspective, it can only be said that all of the bedroom facilities at the SFZ are lacking. The extent of the shortcoming varies with the facility. The indoor bedrooms of the Lion House are generally adequate, in no small part because the public is admitted daily to observe the afternoon feeding. The bear grottos have decent cubbing dens. Many of the hooped stock barns are also functional.

The contrast between the Triple Grotto/ Monkey Island bedrooms and those of the Primate Discovery Center (PDC) is an interesting case study. Triple Grotto and Monkey Island were built as WPA projects during the 1930's. The PDC is the largest and one of the most recent SFZ facilities. The Triple Grotto bedrooms have windows, radiantly heated floors, elevated sleeping platforms and are not too small. The Monkey Island bedroom is very large and has a skylight that bathes the enclosure in natural light. For all of these reasons, the bedrooms of these two facilities are superior to those of the PDC, as will be discussed in greater detail below.





### C. KEEPER NEEDS

Ideally, each SFZ facility should provide for the well-being of its animal inhabitants. Necessary for accomplishing this are facilities that provide for keeper hygiene. Promoting keeper hygiene minimizes disease transmission between animal and keeper. Toward this end, lockers for changing dirty uniforms, sink and shower facilities with hot and cold running water and foot baths are necessary. It is encouraging to note that Gorilla World has a foot bath at the entrance to the bedrooms, a sink was recently installed in the Triple Grotto and planning is underway for a keeper shower/locker facility. These few exceptions aside, however, most of the animal facilities are lacking in necessary, basic keeper amenities.

Secondly, there must be an operating telephone and an intercom or other effective communication system easily accessible to the keepers in all SFZ facilities. Such equipment is necessary as a safety measure for employees working with potentially dangerous animals. It also is vital in the case of veterinary emergencies where immediate care is required. Funds for a walkie-talkie system have apparently been allocated in next year's SFZ budget. The intercom system does not function properly at present, however, and telephones are absent in many keeper work areas.

Finally and most perhaps most importantly, facility-related matters mentioned by the keepers in the "Daily Keeper Report" must be addressed by the proper SFZ personnel. On its tours of the various facilities, the subcommittee heard repeatedly from the keepers that they cite problems with their facilities in the "Daily Keeper Report" that are either forgotten, ignored or otherwise not corrected. Some of these problems are:

- Overgrown, dead cypress branches that will cause the barn of Musk Ox Meadow to cave in unless they are drastically cut back.
- Immovable, misaligned and warped barn doors that are rusted shut and broken doors and hinges in various hoofed stock exhibits.
- Rotted cross bars on the fencing in the giraffe yard that causes the attached vertical poles to fall off and a "repaired" water trough that is actually cracked and leaking.
- Nonexistent drainage in the pond of the tapir exhibit that has caused a build-up of excrement that will soon reach a crisis point.
- Erosion, bent fencing and potentially dangerous holes in the





kangaroo yards that have been covered with plywood so that the keeper can get a wheelbarrow through.

This list is by no means exhaustive. The subcommittee senses a great amount of disillusion and frustration among the keepers on the subject of facility problems. For years the keepers have regularly noted the problems in their "Daily Keeper Reports." Nothing subsequently is done about those problems. When this neglect causes the keepers' animals to suffer, their morale suffers as well.

#### **D. VETERINARY FACILITIES**

Every zoo's veterinary facilities should be designed with the goal of preventive medicine in mind. Preventive veterinary medicine is extremely important to the management of a zoo collection because when care is rendered on exotic animals that have already become seriously or critically ill, it is often ineffective and too late. A zoo's veterinary facilities are not limited to the animal hospital itself. They are best viewed as an integrated whole consisting not only of the animal hospital, but also the animal exhibits themselves.

Initially the focus must be on the animal exhibit itself. Each exhibit should contain a separate isolation area where an animal can be placed under observation for medical or other reasons. It should be distinct from and additional to the animal bedrooms themselves. The area should also be hygienic, easy to clean, and designed to permit keepers or veterinary staff to take blood, urine and fecal samples. Having such an isolation area would permit health problems to be detected and treated at an early stage without major stress to the animal or the need to remove it from its environment. Most, if not all, of the facilities at the SFZ do not have this element. (It should be noted that most zoos are lacking in this respect, although are addressing the problem in their newer facilities.) Once a medical problem is detected, therefore, the animal usually must be taken to the hospital for care. Thus the initial sequential step in preventive veterinary care is lacking.

The lack of isolation areas in the exhibits themselves notwithstanding, the animal hospital at the SFZ is good. It is certainly adequate and meets current standards for veterinary care facilities in general. It is modern, clean, well-equipped and bright and airy from numerous skylights throughout the building. Its x-ray and operating rooms can accommodate animals as large as an adult male gorilla or lion. The quarantine rooms have good floor drainage, easily cleaned concrete block walls, and double door entries that make them accessible to cages.

Given the good quality of the zoo hospital in general, its design flaws are relatively minor yet worthy of mention:



- If the elephant, rhinoceros and hippopotamus exhibits contained the isolation areas discussed above (with an electrical power source for x-ray and surgical equipment) then the hospital's inability to accommodate these megavertebrates would not necessarily be a shortcoming. Presently, however, no facilities exist at the SFZ to provide surgical or other intensive care for these animals.

- Despite their many fine qualities, the inner quarantine rooms lack second entrances and windows for viewing. This prevents humans from entering them when a dangerous animal is recovering inside.

- There are no recovery or quarantine areas for large carnivores, great apes, or medium to large-sized hoofed stock. In the case of carnivores and apes, the problem is simply that the existing quarantine areas are too small. Hoofed stock present a different problem. They are generally high strung and need recovery areas with padded walls and other protective measures to prevent them from injuring themselves.

- Given the size of the SFZ's animal collection, there is an overall lack of both indoor and outdoor quarantine areas.

- The outdoor quarantine areas, or "runs," do not contain heat, which is a necessity for any animal recovering from surgery. These areas also lack corridors between them and double doors, making cleaning difficult and again preventing entry by humans when a dangerous animal is inside.

- The operating room, although adequate, would benefit from a separate area where surgeons and their assistants could be gowned and gloved and the animals cleaned and shaved for surgery. This would prevent the entry of contaminants into the operating room itself.

- There is an overall lack of both storage space for cages and hospital supplies and office space. The spacious central corridor, which could be used for hospital needs, is presently serving as a parking space for the veterinarian's car.

These flaws should not detract from the overall fine quality of the hospital itself. If the goal of preventive veterinary medicine is to be achieved at the SFZ, however, changes--on a broad scale in all of the exhibits and a smaller scale in the hospital itself--will have to be implemented.





#### **IV. CASE STUDIES**

In order to evaluate the preliminary "Zoo 2000" master plan and assess its merits as a state-of-the-art and progressive facility plan, it is necessary to evaluate some of the most recent facilities that have been constructed at the SFZ.

##### **A. Primate Discovery Center**

The Primate Discovery Center (PDC), completed in 1985 at a cost of \$7,200,000, bears particular scrutiny for several reasons:

- Because it spanned the better part of a decade and represented the thrust of the SFZ's renovation efforts during that entire period, it provides an excellent road map of where new facility planning and construction at the SFZ will lead.

- Because the order of animal involved, Primata, was one for which the SFZ formerly enjoyed widespread acclaim for maintaining, exhibiting and breeding, but has since lost, it is potentially useful to analyze the role of the facility in that decline.

- Because the magnitude of the project and the price tag involved are proportionate to what is being envisioned for the Zoo 2000 plan.

In order to best understand the PDC as a facility, its four component parts will be discussed separately: Terrace exhibits, Patas/Mandrill exhibits, Colobus exhibit, and Nocturnal Gallery.

##### **1. Terrace Exhibits**

At first blush, these outdoor cages appear to be larger than the old enclosures, thus giving the appearance of greater living space. Closer inspection reveals, however, that this not so. The large majority of the animals are very active, diurnal, and highly arboreal species. The large amount of vertical space that these enclosures provide is presently useless due to a lack of adequate climbing structures; in functional terms, the cages are only as high as the animals are able to climb.

Additionally, these cages suffer from an shortness of depth. Ample, unutilized space exists immediately beyond the western end of the PDC into which the Terrace cages could have been deepened.

Along with the problems noted above, rudimentary ideas for exhibit enhancement do not appear to have been followed through with sufficient attention to specific behavioral data known about these





species. Two features in these outdoor cages illustrate this point: the crab-eating macaque pool and the original foliage. Crab-eating macaques in the wild under the right circumstances will fish for crabs. The small pool constructed in the exhibit is narrow and deep, with an abrupt entry, uncharacteristic of what they would encounter in the wild. The result of this design required the macaques to submerge themselves entirely into the pool to gain access to the bottom-dwelling crabs. The concept for this exhibit, however novel, was not properly thought through to invite the macaques to exhibit this natural behavior.

The same lack of sufficient behavioral knowledge is evident with the foliage. Although the natural plantings were originally incorporated to stimulate various natural behaviors, such as climbing, swinging, perching, and foraging, the damage to the plantings caused by these animals exhibiting such behaviors in a limited space was overlooked. Denuded central Terrace exhibits with soil erosion problems are the result.

The cumulative effect is negative from the standpoint of animal, keeper and visitor. The animal is left with a bare cage, the keeper is left with cleaning problems and bored animals, and the visitors is left with an uneducational, aesthetically unpleasant exhibit.

## **2. Patas/Mandrill Exhibits**

Generally speaking, these two exhibits give the appearance of having accomplished the PDC's original goal in providing large, naturalistic environments for primates. The two species are able to forage for seeds that have been scattered in the brush and foliage of their outdoor enclosures.

Certain problems do exist. As noted below in the case of Gorilla World, the public views the Mandrills circularly from above. This construction design causes undue stress, in that it places these primates in a perpetually subordinate position vis-a-vis the visitor, from whose eye they cannot escape. The Patas exhibit is not large enough to accommodate the animals' naturally aggressive behavior and high reproductive rate. The well-publicized escape of the mother patas and her baby a few years ago is evidence of this. That particular female was the lowest ranking individual in the troop and was picked on by the other members of the group. After running out of space in order to avoid the other animals within the exhibit, she finally fled the exhibit altogether in order to be safe from such adversarial behavior by troop members.

Little attention appears to have been paid to how large of a species group should be housed, what the accompanying spatial



requirements are, and what external stresses are imposed on the species in order to construct the proper two facilities here.

### 3. Colobus Exhibit

By virtue of its sheer size, the Colobus exhibit has the potential of being the most successful of the PDC. Were the enclosure's interior layout designed correctly, the exhibit would be large enough to accommodate a self-sustaining colony of *Colobus guereza*.

Some of the problems with the enclosure's interior layout are:

- Large tree-dwelling primates such as *C. guereza* locomote and are otherwise active in areas of their arboreal habitat that provide them with sufficient means of horizontal movement. The interior layout of the Colobus exhibit is lacking in adequate horizontal branches, logs, trunks and other such surfaces. The result of this is that the animals are prevented from utilizing large portions of the enclosure.

- The exhibit was not designed with cleaning in mind:

- The original I-beams installed in the enclosure were a sanitary nightmare. Although unintended, they became perfect receptacles for fecal matter from both the colobus themselves and gulls and other free-flying birds in the area. Once the seriousness of this design flaw was realized, a \$20,000 modification was necessary to seal over the exposed, trough-like portions of the beams.

- This problem aside, the fecal matter from these wild birds is still present on the beams throughout the exhibit in areas that cannot be reached with zoo equipment. This necessitates periodically calling the San Francisco Fire Department and other outside sources for special equipment to clean and hose the beams properly.

- Although not unique in the PDC (the Diana Guenon and Francois Leaf Monkey enclosures of the Terrace exhibits also have this), the problem of visitors being able to reach into the cages and make contact with the animals is a serious problem with the Colobus exhibit. Not only does this situation present the risk of injury to the public from animal bites, there is also the potential for transmission of disease from animal to human and vice versa.





#### **4. Nocturnal Gallery/Tamarins**

The central idea behind this part of the PDC is one that has been employed by zoos for 20 years: that of exhibiting nocturnal animals in darkness during visiting hours so the public may observe animals that would otherwise be asleep being active. The nocturnal exhibit has developed and refined over the years to the point where the most successful exhibits go beyond the reverse lighting concept itself by incorporating a given species' physical and psychological needs as well.

Although the Nocturnal Gallery gives the proper feeling of darkness, the small, concrete exhibits themselves are lacking in several key respects. Douroucoulis and bushbabies, two species exhibited, are highly active arboreal animals capable of making sizeable leaps. The small size of their enclosures, however, denies them the opportunity of demonstrating this behavior. (Although technically not a strictly facilities-related topic, the abnormally high death rate of the SFZ's bushbaby colony shocks this subcommittee.) The springhaas, a hare-like rodent that burrows by nature, was placed in a concrete-floored enclosure lined with redwood chips; the result were animals with bleeding claws sustained after they futilely yet instinctively attempted to burrow.

In addition to limiting the animals in their behaviors, the small size of the exhibits makes it difficult for keepers to maneuver inside them for proper cleaning.

A secondary criticism about the exhibits is that the obviously plastic foliage, visible doors and brush-paneled concrete walls are aesthetically lacking.

#### **5. PDC Bedrooms**

This aspect of the PDC must be singled out for comment. Although it is an area that the public never sees, it is where the animal inhabitants spend approximately 16 hours of each day. This is the ultimate tragedy of the PDC, because the bedroom facilities are inhumane in most key respects:

- Natural light is minimal or nonexistent, partly because of improperly designed overhanging ceilings that darken the bedrooms.
- The bedrooms are little more than a series of small holding cages. (For a more detailed discussion of the philosophy of bedroom facilities, please refer to that topic above.)
- Other than bare concrete floors, the only place for these primarily arboreal animals to rest is a small shelf attached to the lower





half of the rear wall of each cell. This creates two serious problems: it robs the animals of the use of what vertical space exists in each cell and, given each animal's propensity to orient itself in the direction of possible threats (i.e. toward the front of the cage), the animals are forced to sit with their tails bent uncomfortably away from the rear wall of each cell.

- The floors of the mandrill and patas bedrooms are devoid of all drainage. This means that the feces and uneaten food hosed each morning by the keepers not only splash off floors onto the walls of the cells, they also come to rest in a stagnant pool which must be swept away by the keepers.

- One combined effect of no natural light and no drainage is bedroom floors that do not dry, providing bacteria and other microorganisms a damp environment in which to incubate.

- The food in most of the bedrooms is placed in metal chutes attached to the cage doors, from where it falls directly onto the floor for the animals to eat. Animal feces also fall onto the same floor.

- The patas and mandrill bedrooms are heated by means of a large, turbine-like heater that sounds like a giant airplane propeller when in operation.

- There are no isolation or quarantine areas for any of primates in any bedroom area of the PDC.

The subcommittee is not only shocked by these conditions, it finds them inexcusable. The PDC was built in the 1980's. From its inception, voluminous literature about wild and captive primates and numerous successful examples of zoo primate exhibit design were available for consultation. That such sources were overlooked, ignored or otherwise disregarded is apparent.

The only real innovation in the PDC is for humans. The Discovery Center contains computers, controls and gadgets with which the public can have fun learning about primates. Given the critical needs elsewhere in the SFZ, however, what is the justification for vaulted, wood beam ceilings and recessed lighting.

The subcommittee has learned that the most of the operating expense of the PDC is also for humans. The annual budget for maintaining the gadgetry in the Discovery Center exceeds the annual budget for all PDC animal facilities combined.

The Comparative Zoo Survey also shows that, in comparison to \$7.2 million in 1980-85 dollars for the construction of 15 new primate enclosures at the SFZ, the San Diego Zoo spent \$14 million



in 1981-89 dollars to build a half-acre African kopje (a rock outcropping habitat for birds, mammals and reptiles), two orangutan enclosures, two siamang enclosures and a tropical Asian aviary, a two-acre Tiger River complex and a sun bear and lion-tailed macaque forest. Even assuming higher construction costs in San Francisco, the wisdom of spending more on concrete and steel and less on natural materials must be questioned.

From any rational examination of the Primate Discovery Center, one cannot avoid the conclusion that the lessons of its planning, design and construction have been costly: an intolerable living experience for the animals and a difficult-to-clean source of disease and illness for the keepers. At a \$7,200,000 pricetag, it is failure on a colossal scale.

## **B. KOALA EXHIBIT**

The SFZ is one of three zoos outside of Australia to exhibit koalas (Los Angeles Zoo and San Diego Zoo are the other two). "Koala Krossing" was completed in 1985 at a cost of \$500,000. The new koala facilities in Los Angeles and San Diego were already completed prior to the construction of the SFZ facility.

The Los Angeles Zoo koala facility is a large, rectangular, nocturnal (reverse lighting) house with a eucalyptus grove, a flowing stream and public viewing on two sides. The off-exhibit area is in a section behind the back wall of the public viewing area with individual cages to house each animal and ample keeper working space.

The San Diego Zoo koala facility consists of a large series of interconnected off-exhibit breeding cages with a small outdoor yard for year round public viewing.

Both the Los Angeles and San Diego facilities have had repeated breeding success with these animals.

The SFZ facility resembles that of San Diego, in that it has an outdoor viewing yard with two tree structures, an indoor viewing area and a series of off-exhibit cages for breeding.

From this subcommittee's tour, however, many glaring deficiencies in the design and construction of the facility came to light:

- Given the SF climate in the southwest corner of the city, and the warm weather requirements of this particular species of koala, the outdoor yard can be only be utilized on a limited basis. This, combined with the extremely small size of the indoor viewing area,





requires that the behind-the-scenes area fully accommodate the animals' daily living needs.

The behind-the-scenes area is inadequate in the following respects:

- Cages are too small and there isn't a cage assembly large enough to permit the introduction of multiple animals.
- U-beams implemented in construction which trap animal fecal matter.
- Flooring construction does not allow for proper drainage. (note this is primarily a keeper problem because koalas rarely walk on the ground.)
- No isolation/quarantine cage or area.
- No direct access to outdoor exhibit from back areas without walking in public pathways.
- No demarcation between public pathways and keeper service areas, which results in the public entering the latter area.
- Indoor animal viewing area virtually impossible to clean because of improper design of the wooden slats combined with lack of space.

Any successful koala facility must also consider the species' exclusive diet of eucalyptus leaves. For instance, the San Diego koala management program incorporates a eucalyptus grove on zoo grounds in order to constantly supply the animals with food. SFZ did not implement providing a constant food source in its design of a koala facility.

Circumstances have reached a point where the SFZ keepers have regressed a few hundred thousand years to the status of hunters and gatherers in a territory encompassing the entire Bay Area for particular eucalyptus species preferred by these animals. This has reached a crisis situation because the food supply is quickly being depleted.

### **C. GORILLA WORLD**

Gorilla World was completed in 1980 after SFZ had received funding from the Federal Government for its construction. In the beginning of the 1970's the SFZ had one of the most successful captive breeding groups in the world. The group during that period was housed in a concrete moated exhibit virtually identical to the current





Triple Grotto for chimpanzees and orangutans (the present mandrill yard is essentially a renovation of that former exhibit).

In contrast to the other two case studies discussed here, Gorilla World is an overall success. The following aspects of the exhibit are particularly noteworthy:

- The bedrooms are virtually flawless. Consisting of a series of spacious, interconnected cages, the bedrooms are constructed on a radiantly heated concrete platform elevated so that the animals are able to view their keepers from above. This is important because psychologically it gives the animals a sense of security. (Primates suffer from stress when constantly viewed from above.)

- The interior lighting is excellent. Diffuse natural light from an overhead skylight bathes the entire indoor area.

- Keeper concerns are well met:

- Bedroom platform is sloped toward from center to the edge to facilitate drainage.

- A wide hallway surrounds three sides of the bedroom complex, allowing ease of viewing and access.

- Animal food prep area-sink, stove, refrigerator, cabinets is spacious and easy to maintain.

- There is office space for reporting and record keeping complete with a telephone.

- Adequate storage space exists for work equipment and other necessities.

- A utility yard borders on the back side of the bedroom facility and permits vehicles access to the area, which is important for animal transport and equipment delivery.

- The outdoor enclosure is large and grassy with trees, logs, rocks and a running stream.

The shortcomings which exist in Gorilla World primarily concern the outdoor enclosure. In contrast to the bedroom feature noted above, the public views the animals from five vantage points surrounding the enclosure from above. This, combined with the lack of hiding places in the enclosure, creates a potentially stressful situation for the animals. Additionally, the entire exhibit is in one of the coldest areas of the SFZ and lacks heating elements for the animals while outdoors. This can be easily remedied by installing heating in



## V. ZOO 2000

**Background:** ZOO 2000 is the Zoological Society's long-range plan to renovate the entire SFZ. It is expected to take many years and cost approximately \$75 million. ZOO 2000 has two broad themes: the concept of the SFZ as a "self-teaching zoo" and the now-familiar concept of reorganizing the display of animals along geographic lines.

Along those two themes the Zoological Society hopes to display a large variety of species from five continents. Although the details are still sketchy, the exhibits for each continent will teach a different aspect of animal behavior and evolution. The first exhibit is a tropical forest from Southeast Asia. It is scheduled to be built in the southeastern corner of the SFZ, where the black rhinos and other hoofed stock are presently located, and cost approximately \$20 million.

The self-teaching theme is apparently a reference to the Discovery Center complex in the PDC. The idea of grouping mammals, birds and reptiles together according to where they are found in the wild has been tried over the past decade by several zoos, including those in New Orleans, New York, Portland, San Diego, Seattle, Tacoma and Washington D.C.

The zoogeographic concept is based upon the premise that the zoogoer's visit is enriched because he or she is viewing animals as they would be found in the wild rather than as some 19th century taxonomist would arrange them. It is not clear that this premise is true. In zoos where the concept has succeeded, the success is usually due to reasons other than zoogeography itself. The Louisiana Swamp in New Orleans' Audubon Park Zoo succeeds because it is a well-designed replica of a natural ecosystem of the region. The African kopje at the San Diego Zoo succeeds because it too gives the visitor in that climate a good feel of what life is like among lizards, birds and mongooses on the rock islands that dot the southern half of Africa. Jungle World at New York's Bronx Zoo succeeds because it is in a huge, yet simple hangar-like building that makes a near-authentic recreation of the strata of the rain forest in January possible.

**Analysis:** Apart from ZOO 2000 Now, a series of more immediate improvements that will be discussed below, ZOO 2000 is an unacceptable plan ill-suited to the needs of the SFZ. The reasons for this have as much to do with the general situation at the SFZ as they have to do with the plan itself.

For all of the following reasons, the Zoo Advisory Committee recommends that the SFZ abandon the ZOO 2000 plan and halt all funding for it immediately:





- The plan ignores the realities of climate and space limitations at the SFZ. The presently developed SFZ sits on approximately 60 acres. The site is generally cool, damp, windy and foggy. Given these locational realities, it would be impossible to house properly the varieties of large animals from the warmer regions of the globe that have been planned for ZOO 2000.

- The criteria for selecting which animals are to be included in the plan are wrong in another key respect. The first two of the eight animal selection criteria listed in The Portico Group's Summary Report are "Educational Value" and "Public Interest." These are evidence that people without animal knowledge or experience are responsible for the plan. If housed intelligently and innovatively, any animal, be it an African elephant or the smallest insect, can educate and interest the public.

- There is no attempt to integrate the present collection into the plan. To those concerned about the sad state in which the animals at the SFZ are presently housed, ZOO 2000 appears to be an insensitive and unnecessary plan. It makes no attempt to address the needs of those animals in its design for the future.

- The self-teaching concept is vague and of little value. As even the toughest resident of the South Bronx standing in reverential awe among the wonders of Jungle World will attest, a zoogoer can be taught only after he or she first feels good about the way in which the animals are housed. Once that feeling is achieved, teaching comes automatically through enjoyment and observation. With the possible exception of good interpretive graphics, therefore, every dollar taken away from animal housing and spent on gadgets to instruct the visitor is wasted.

- The plan's most important element has been scrapped in the face of the Sewage Treatment Plant. Perhaps the best part of ZOO 2000 as originally proposed was the creation of avian and mammal conservation centers. These are areas of the zoo off limits to the public where the reproduction of rare and endangered species takes place. Experience in the country's leading zoos has shown that such an area is necessary for any zoo committed to preserving endangered wildlife. Although ZOO 2000 speaks about such commitment, the words are empty. The Sewage Treatment Plant is being built on the site where the conservation centers were to have been located. No other plans for their construction have been set forth.

- The single most important reason not to build ZOO 2000 is that the SFZ personnel behind it are completely unfit for the task. In a municipal zoo such as the SFZ, a supporting zoological society's functions should be limited to fundraising and visitor services. The





San Francisco Zoological Society should not be in the business of designing and constructing animal exhibits. Its staff members have neither the animal knowledge nor experience required. Even more problematic is the woefully deficient animal management team on the municipal side. Unless and until these personnel problems are solved, ZOO 2000 will only be a disaster.



## CONCLUSIONS AND RECOMMENDATIONS

### EXISTING FACILITIES

1. All outstanding maintenance and service problems of each facility should be corrected. Priorities should be based primarily on the needs of the animals and secondarily on costs and feasibility. (NOTE: This report specifically mentions only a few of these needs. Many, if not all, of these needs have been cited for years by the keepers in their Daily Keeper Reports. SFZ management knows or should know about them.)
2. Evaluations about the quality of a given facility should be based primarily on whether the animals' needs are addressed, NOT on unfounded, anthropomorphic beliefs. This conclusion is made to dispel the myth that Musk Ox Meadow or the PDC, simply because they are newer facilities on which large amounts of money have been spent, have brought improvement to the animals' living conditions. In reality, some parts of facilities built by the WPA 50 years ago remain the best in the zoo.
3. There are only two valid priorities for determining which species should remain in their facilities, be moved to more appropriate SFZ facilities, be traded or sold to other animal institutions or not be replaced as their natural lives expire: whether that species can be housed in the SFZ's climate and within its limited space and whether that species' status in the wild is threatened or endangered.

NOTE: To the extent that ZOO 2000 Now is compatible with the above recommendations, it is a good plan that should be implemented as soon as possible. These recommendations and conclusions are limited to facilities only. They cannot be successfully achieved, however, without the improvements in SFZ management, veterinary care, organization and employee relations that are recommended elsewhere in this report.

### NEW FACILITIES

1. No new animal facilities should be built until the recommendations set forth above are fully implemented.
2. Any new animal facility at the SFZ should be planned, designed and built by people with animal knowledge and experience, not the unqualified people who are currently designing ZOO 2000.
3. As discussed above, any new facility should only be built for animals suitable to the SFZ's climate and physical limitations.
4. Effective keeper input should be an integral part of any new facility's design and construction.
5. Those responsible for designing and constructing new SFZ facilities should fully research and understand the experiences that other zoos have had with their facilities so that strengths can be repeated and mistakes avoided.



6. Both animals and the public prefer rocks, branches, dirt and vegetation to concrete and steel. Cleaning and maintenance considerations should not be overlooked, however, in abiding by this principle.





**FACILITIES REPORT  
Executive Summary  
and  
Recommendations  
for  
San Francisco Zoo**

Zoo Advisory Committee  
Facilities Subcommittee Members:

Margaret Burks  
Keith Eickman  
Robert Erickson  
Richard Hills  
Noel Messenger

November 1989



Facilities Report Executive Summary  
Page 1

The Facilities Subcommittee toured all major animal facilities at the San Francisco Zoo in order to assess the buildings and exhibits in which the animals are housed and the keepers work. The facilities range from cages and enclosures built by the Works Progress Administration during the 1930's to the Primate Discovery Center completed in 1985.

The accompanying Facilities Report contains detailed information which describes three major unsatisfactory conditions generally affecting Zoo facilities:

1. Inadequacies in physical plant design (planning error or omission)
2. Inoperable or dysfunctional systems (maintenance or deterioration due to old age)
3. Undesirable operating deficiencies (management deficiencies)

Analysis of the underlying cause of these problems indicates that most were the result of poor planning, primarily caused by incomplete or inadequate (and in some cases unknown) information, lack of understanding of animal needs and animal husbandry, and a largely unaccountable administrative structure that makes necessary communication between managers and operation personnel difficult at best. Deferred maintenance and antiquated facilities, particularly irrigation and infrastructure (sewer system, utilities), contribute to the problem.

Recommendations contained in the full report are largely for administrative structures, procedures and on-going programs and demand increased information flow, definition of responsibilities and a more complete knowledge of Zoo goals, purposes and needs. The three major unsatisfactory facility conditions, and recommendations addressing them are as follows:

CONDITION 1: Inadequacies in physical plant design (planning error or omission)

Recommendation 1: Develop and write design criteria for all new exhibits, renovations and maintenance of facilities.

Recommendation 2: Research the physical, psychological, and behavioral needs of each animal species and use as the basis of exhibit design and modification.

Recommendation 3: Careful attention should be given to off-exhibit and night quarters in provision of animal needs. All exhibit areas should have isolation facilities.



Recommendation 4: Attention should be given to animal keeper needs, daily maintenance requirements of exhibit areas, off-exhibit areas and public areas. The requirements for each should be written and used as the basis for establishing daily protocols.

Recommendation 5: A written long-term animal management program should be developed for each species exhibited, taking into consideration the constraints of exhibit size and holding capacity.

Recommendation 6: Every exhibit should be evaluated by zoo personnel on how well it provides for the needs of the animals, the visitors and the employees:

- how well does the exhibit approximate the animals native habitat?
- does it provide maximum opportunities for the animal's natural behaviors in its natural social group?
- are the night quarter areas also providing for the species nighttime needs?
- are the animals reproducing?
- are the animals in good health?
- is there any stereotypical behavior evident?

Recommendation 7: Written standards for all materials used in zoo facilities should be developed.

Recommendation 8: Employees involved in direct animal care, exhibit maintenance, landscaping and support services should participate in project planning and implementation.

CONDITION 2: Inoperable or dysfunctional systems (maintenance or deterioration due to old age)

Recommendation 1: Complete a major program, Zoo 2000 Now, to correct deficiencies Zoo-wide and bring the present Zoo to a level of excellence before any expansion is undertaken. The Zoological Society has committed to raise \$7 million from private sources for animal habitat improvements, public services, off-exhibit animal management facilities, and the consolidation of maintenance support systems.

Recommendation 2: A systematic reporting and follow-up method should be implemented to identify and track maintenance needs. Responsibility should be identified and accountability established.

Recommendation 3: The resources of the Recreation and Park Department and the Zoological Society should be coordinated for maximum benefit of the Zoo. Responsibility should be defined and authority identified.





Recommendation 4: A centralized maintenance and shop facility should be established.

Recommendation 5: An Exhibits Department should be established on site to repair, build and create animal and interpretive exhibits.

Recommendation 6: A scientific Horticulture Department with a nursery should be established and a curator of horticulture hired to develop the plant collection, enhance animal exhibit areas, provide food source/browse for the animals, and improve the natural environment.

Recommendation 7: Housekeeping standards should be established and maintained for both on- and off-exhibit areas.

Recommendation 8: Additional correction work should be completed in the Primate Discovery Center including additional plantings, branches, logs, ropes, etc. to enrich animal activity; construction of barriers to eliminate possible contact between public and animals; improvements in sanitation by use of sealants; closures on I-beams.

CONDITION 3: Undesirable operating deficiencies (management and staff deficiencies)

Recommendation 1: Request supplemental appropriations to fund operational improvements that correct deficiencies in staffing levels.

Recommendation 2: Establish objectives and define operations responsibilities requiring annual review, performance evaluations and accountability.

### Zoo 2000

The Zoo 2000 master plan envisions a rebuilding of the entire zoo in zoogeographic regions themed to tell the story of animal survival. Animal habitats will be designed to replicate natural environments, all behind-the-scenes are to be state-of-the-art to support breeding programs and meet SSP requirements and the architectural philosophy is one of "habitat immersion" wherein the visitor is immersed in a natural setting.

Recommendation 1: The Zoo 2000 plan should be used as an on-going, working plan and clearly defined responsibilities should be established for implementation and periodic re-evaluation for updating as conditions change.

Recommendation 2: The Zoo 2000 plan should be reviewed by the permanent director and presented to all segments of the public, Zoo members, employees and governing agencies to develop a consensus of support.

Recommendation 3: When the management plan and operating cost analysis are complete, they should be reviewed to ensure realistic, incremental



operating expenses can be provided for as needed, rather than after-the-fact as has happened in the past.



## FACILITIES SUBCOMMITTEE REPORT

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### II. PURPOSE & OVERVIEW

### III. REVIEW OF FACILITIES

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  - African Scene

Hoofed Stock Exhibits

- B. VETERINARY FACILITIES

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- D. Zoo 2000

Zoo Advisory Committee, Facilities Subcommittee Members:

Margaret Burks, Keith Eickman, Robert Erickson, Richard Hills, Noel Messenger





## I. INTRODUCTION

The Facilities Subcommittee toured all major animal facilities of the San Francisco Zoo (SFZ) in order to assess the buildings and enclosures in which the animals are housed and the keepers work. The principal or relief keeper of each facility accompanied the subcommittee on its tour of that facility.

At its first meeting, subcommittee members P. Burks and R. Hills each submitted a separate written proposal for evaluating captive animal enclosures to the subcommittee (see attachment #1). Subsequent meetings consisted of the facilities tours, immediately followed by discussion sessions among the subcommittee members.

One meeting was devoted to a presentation of Zoo 2000 by the design team, consisting of Rhodes/Dahl - project management, Esherick & Homsey Dodge & Davis - architects, The Portico Group - zoological architects, and staff representatives. Additionally, Cathy Simon, principal architect for the Primate Discovery Center, toured the Primate Center and met with the subcommittee in its review of that facility.

## II. PURPOSE & OVERVIEW

This report is written to provide a comprehensive overview of the animal facilities at the SFZ, and to make recommendations for improvements in facility design, maintenance and long range planning.

A wide variety of animals facilities exist at the SFZ, from a large number of cages and enclosures built by the Works Progress Administration (WPA) during the 1930's to the Primate Discovery Center (PDC) completed in 1985. The subcommittee sought to investigate each in terms of four essential elements: outdoor enclosures, night quarter facilities, veterinary needs and keeper needs.

Through its tours with keeper staff, the subcommittee became well informed about the necessary elements for properly housing wild animals at the SFZ. This report consists of a general analysis of the SFZ's facilities



followed by more detailed case studies of the most recent exhibit constructions.

The conclusions and recommendations from this investigation are designed to enable the Board of Supervisors to gain a better understanding of the complex requirements of zoo exhibit design, improvements required for existing facilities, and improvements required for proper maintenance of these and all future facilities.



### III. REVIEW OF FACILITIES

#### A. ANIMAL EXHIBITS

For the sake of cohesion and organization, the outdoor enclosures, night quarter facilities and keeper needs of the facilities at the SFZ will be grouped into three broad categories: hoofed stock exhibits (Musk Ox Meadow, axis deer/blackbuck/waterbuck/water buffalo yards, black rhinoceros/llama/Rocky Mountain goat yards), carnivore exhibits (Lion House/bear grottos/small cat cages/otter pool) and the African Scene (the giraffe, zebra, African elephant, hippopotamus, and Asian one-horned rhinoceros enclosures).

##### Hoofed Stock Exhibits

Generally speaking, the hoofed stock yards are spacious and capable of housing, by traditional zoo standards, a sizeable group or herd of each given species. Although substrate is an important aspect of every zoo enclosure, this is even more so in the case of hoofed stock. Ungulates of the types exhibited at the SFZ often roam over large areas in the wild, which has the effect of keeping their hooves trim. Deprived of this movement in a zoo setting, the animals' hooves can quickly become overgrown.

One way of preventing this problem is by providing a sufficiently hard substrate. This has been done in the llama, mountain goat and portions of the black rhinoceros yards, which contain redrock and decompose granite. Musk Ox Meadow, by contrast, is deficient in this regard. Although spacious, the enclosure was originally designed to house tule elk, which inhabit swamps. The thick, spongy grass in the yard is wholly inappropriate for a nomadic species from the icy tundra of the Arctic Circle; overgrown hooves have been an ongoing problem since Musk Ox Meadow opened. Attention should be given to barns: drainage, appropriate substrates for maximizing hoof care, pest proofing, heat and proper food storage.

##### Carnivore Exhibits

Although originally constructed during the 1930's, the main row of bear grottos and the outdoor enclosures of the Lion House are admirable in several key respects. They are functional, fairly large, and provide for the animals' physical needs. The pool in the polar bear enclosures, for example, is approximately 10' deep. Although the concrete in the bear grottos may seem harsh, it is easy to clean and thus keeps disease contagion to a minimum.

The concrete flooring of the outdoor Lion House enclosures was remodelled in 1982. The foliage, trees, scratching posts and pools are certainly more pleasing from a human, aesthetic point of view, and for the animals provides variety of activity, opportunities for visual privacy from the public and each other. However, it needs to be properly maintained to enhance public





viewing, improve cleanliness - particularly in the moated areas - and at the perimeter areas. There is a differing point of view on the appropriateness of the rounded cobblestone substrate: some believe the cats find it uncomfortable to walk on and to lay on, and more difficult to clean on a daily basis. However, there are flat rock areas and smooth surface ledges within all the grottos, the tigers have created their own "trails" appropriate to their behavior, and it appears overall the remodelling has enriched their daily life. The remodelling has increased and changed the day-to-day exterior maintenance needs from simple hose-down to a more labor-intensive hands-on exhibit requirement.

It is recommended that a written protocol be developed for maintenance of these exhibits, including day-to-day duties, a landscaping and re-planting plan, and ways to continue to enrich the animals' experience (e.g. new scratching posts, introduction of logs from time-to-time). There is a major pigeon problem in one grotto that should be corrected as a potential hazard to animal health.

Small cats: these cages are in an area scheduled for rehabilitation as part of Zoo 2000 NOW, and therefore are not addressed in this report. We support the concept that off exhibit holding be developed in this area if the added provision of electricity and heat is cost-effective (remodelling as opposed to new construction).

#### African Scene

With a few exceptions, these enclosures are large, adequate and functional. The giraffe and mixed species exhibits (zebras, cranes and storks) are spacious and have good substrates. It is recommended that the island in the hippo exhibit be removed to increase the size of the pool. Holding areas (particularly for African Elephants) are in need of remodeling to provide isolation, pest-proofing, adequate food storage, etc. The entire area could be improved aesthetically by replacing and standardizing fencing and barriers, and by adding extensive plantings. Animal enrichment ideas (scratching posts, salt licks, varied feedings, etc.) should be explored for each species.

#### B. VETERINARY FACILITIES

Every zoo's veterinary facilities should be designed with the goal of preventive medicine in mind. Preventive veterinary medicine is extremely important to the management of a zoo collection because when care is rendered on exotic animals that have already become seriously or critically ill, it is often ineffective and too late. A zoo's veterinary facilities are not limited to the animal hospital itself. They are best viewed as an integrated whole consisting not only of the animals hospital, but also the animals exhibits and animal care practices.

Initially the focus must be on the animal exhibit itself. Each exhibit should contain a separate isolation where an animal can be placed under observation for medical or other reasons. It should be distinct from and additional to the animal night quarters themselves. The area should also be hygienic, easy to clean, and designed to permit keepers or veterinary staff



to take blood, urine and fecal samples. Having such an isolation area would permit health problems to be treated at an early stage without major stress to the animal or the need to remove it from its environment. Most, if not all, of the facilities at the SFZ do not have this element. Once a medical problem is detected, therefore, the animal usually must be taken to the hospital for care. Thus the initial sequential step in preventive veterinary care is lacking.

The lack of isolation areas in the exhibits themselves notwithstanding, the animal hospital at the SFZ is good. It is certainly adequate and meets current standards for veterinary care facilities in general. It is modern, clean, well-equipped and bright and airy from numerous skylights throughout the building. Its x-ray and operating rooms can accommodate animals as large as an adult male gorilla or lion. The quarantine rooms have good floor drainage, easily cleaned brick walls, and double door entries that make them accessible to cages.

Given the good quality of the zoo hospital in general, its design flaws are relatively minor yet worthy of mention:

If the elephant, rhinoceros and hippopotamus exhibits contained the isolation areas discussed above (with an electrical power source for x-ray and surgical equipment), then the hospital's inability to accommodate these megavertebrates would not necessarily be a shortcoming. Presently, however, no facilities exist at the SFZ to provide surgical or other intensive care for these animals.

There are no recovery or quarantine areas in the hospital for large carnivores, great apes, or medium to large-sized hoofed stock. In the case of carnivores and apes, the problem is simply that the existing quarantine areas are too small. Hoofed stock present a different problem. They are generally high strung and need recovery areas with padded walls and other protective measures to prevent them from injuring themselves.

The outdoor quarantine areas, or "runs," do not contain heat, which is a necessity for any animal recovering from surgery. These areas also lack corridors between them and double doors, making cleaning difficult and again preventing entry by humans when a dangerous animal is inside.

The operating room although adequate, would benefit from a separate area where surgeons and their assistants could be gowned and gloved and the animals cleaned and shaved for surgery. This would prevent the entry of contaminants into the operating room itself.

There is an overall lack of both storage space for cages and hospital supplies and office space. The corridor - presently used by the veterinarian to park his car - should be better utilized for hospital needs.

These flaws should not detract from the overall fine quality of the hospital itself. If the goal of preventive veterinary medicine is to be achieved at the SFZ, however, changes -- on a broad scale in all of the exhibits and a smaller scale in the hospital itself -- will have to be implemented.





#### IV. CASE STUDIES

In order to evaluate the preliminary "Zoo 2000" master plan and assess its merits as a state of the art and progressive facility plan, it is important to evaluate some of the most recent facilities that have been constructed at the SFZ in order to learn from mistakes made in these projects.

##### A. PRIMATE DISCOVERY CENTER

The Primate Discovery Center (PDC), completed in 1985 at a cost of \$7,200,00, represents the largest project ever undertaken at the SFZ - which eliminated row caging for monkeys and developed new exhibits for 16 species. It is a major architectural statement with a strong design element reminiscent of the arched forms of the conservatory in Golden Gate Park. Some find the architecture admirable, others find it out-of-keeping with a more naturalistic environmental approach. It was designed ten years ago and trends in zoo design (nationally as well as in the SFZ's Zoo 2000 plan) have moved to "habitat immersion" with minimal visible architectural forms. It was also the first time that extensive plant materials were used in a small monkey exhibits, which required a major change in animal keeping techniques from a relatively simple hose-down operation to a more complex operation requiring knowledge of cleaning and sanitation methods, plant maintenance, and (in some areas) pool equipment and HVAC systems operation.

Two design errors were made in the PDC that have required correction: one was an open I-beam support system that resulted in major sanitary problems; the other was inadequate barriers in some areas, permitting contact between the public and animals with potential risk of animal bites as well as transmission of disease from animal to human and visa versa.

A modification has been made to seal over the trough-like portions of the beams. Fecal matter from wild birds still is present on the beams in areas that cannot be reached with zoo equipment. This necessitates periodically calling the San Francisco Fire Department and other outside sources for special equipment to clean and hose the beams properly.

Other modifications have included installation of additional barriers and railings, moving railings back to increase the distance between the public and the exhibits, and addition of smaller mesh fabric. We understand additional corrective measures are planned (railings, barriers, and installation of glass viewing windows) which should be done immediately.

In order to best understand the PDC as a facility, its four component parts will be discussed separately: Terrace exhibits, Patas/Mandrill exhibits, Colobus exhibit, and Nocturnal Gallery.

##### 1. Terrace Exhibits





The large majority of the animals are very active, diurnal, and highly arboreal species. The large amount of vertical space that these enclosures provide is functional only to the degree that the animals have access to it, and additional ropes, branches, and nets should be provided to increase the activity areas for the animals. These enclosures suffer from a shortness of depth which makes maintenance difficult. The exhibits should have been deeper and more attention paid to keeper needs for easy access and daily maintenance.

Ideas for exhibit enhancement do not appear to have been followed through with sufficient attention to specific behavioral data known about these species. Two features in the macaque exhibit illustrate this point: the small pool and the destruction of the original foliage. Crab-eating macaques in the wild under the right circumstances will fish for crabs. The small pool constructed in the exhibit is narrow and deep, with an abrupt entry, uncharacteristic of what they would encounter in the wild. The result of this design required the macaques to submerge themselves entirely into the pool to gain access to the bottom-dwelling crabs. The concept for this exhibit, however novel, was not properly thought through to invite the macaques to exhibit this natural behavior. Although natural plantings were originally incorporated to stimulate various natural behaviors, such as climbing, swinging, perching, and foraging, they have been destroyed and denuded exhibits with soil erosion problems are the result. The behaviors of the species selected, and the number of animals exhibited are not appropriate for the size and design of the exhibit. The cumulative effect is negative from the standpoint of animal, keeper and visitor. It is recommended that a change be made and a species more appropriate for the limitations of the exhibit be displayed, and that remedial work be undertaken to correct the deficiencies noted.

## 2. Patas/Mandrill Exhibits

Generally speaking, these two exhibits have accomplished the PDC's original goal in providing large, naturalistic environments for primates. The patas and mandrills behave much as they would in the wild, with space to forage, varied terrain and vegetation enabling them to have privacy from the public and from each other. The practice of scattering seeds for additional foraging behavior is excellent and should be increased throughout the Primate Center as appropriate.

## 3. Colobus Exhibit

By virtue of its sheer size, the Colobus exhibit has the potential of being the most successful of the PDC. The exhibit is large enough to accommodate a self-sustaining colony of arboreal Colobus guereza which would be very active if provided sufficient horizontal access to the space available. The exhibit initially lacked horizontal branches, logs, trunks and other such surfaces, but eventually, with input from an animal keeper additional branching was added. More branches and nets should be added to enable the animals to better utilize the exhibit.

Because of excessive deaths within the colobus colony, this subcommittee also examined the facility for possible contributing factors. The exhibit was designed for one group of animals, yet two groups were maintained for



several years - an original zoo group and a new wild-caught group introduced to improve genetic viability. Individual animals fought and the groups lived under considerable stress for a long period of time, until finally those animals that could not get along with the group were removed.

Additionally, for approximately two years the animals were not able to be brought in at night nor during inclement weather, another stress-producing condition. It is our conclusion, that although a facility design flaw in the I-beams may have contributed to the colobus deaths, animal management practices and veterinary care are also contributing factors and should be examined.

#### 4. Nocturnal Gallery/Tamarins

The central ideas behind this part of the PDC is one that has been employed by zoos for 20 years: that of exhibiting nocturnal animals in darkness during visiting hours so the public may observe animals that would otherwise be asleep being active. The nocturnal exhibit has developed and refined over the years to the point where the most successful exhibits go beyond the reverse lighting concept itself by incorporating a given species' physical and psychological needs as well.

The Nocturnal Gallery gives the proper feeling of darkness, and the exhibits are small, as are the animals selected for the displays. The douroucoulis and bush babies, two species exhibited, are highly active arboreal animals capable of making sizeable leaps. Although active, the animals would have utilized larger exhibits areas had they been provided. In addition to limiting the animals in their behaviors, the small size of the exhibits makes it difficult for keepers to maneuver inside them for proper cleaning.

At one time the springhaas, a hare-like rodent that burrows by nature, was placed in a concrete-floored enclosure lined with redwood chips; the result was animals futilely yet instinctively attempting to burrow. They were eventually moved. We would recommend that serious thought be given to a animals physical needs and its behavioral requirements before introducing it into an exhibit.

Deaths of the bushbaby group were also reviewed by this committee, and investigation showed that animal management decisions, rather than facility flaws, are the primary reason for loss of life. Two groups of animals were put together and eventually only one animal survived. Aggression is very common to this species and we would - recognizing the advantage of hindsight - recommend that action be taken more quickly when animals are obviously fighting, in this case causing death. There are instances of initial aggression, followed by clear 'ranking' within animal groups which establishes territory and result in stable social relationships. This was not successful with these groups and we would recommend more expeditious intervention by animal management in such instances.

A secondary criticism made by some is that the obviously plastic foliage, visible doors and brush-paneled concrete walls are aesthetically lacking.

#### 5. PDC Night Quarters





Night quarters are an area that the public never sees, yet it is where the animal inhabitants spend approximately 16 hours of each day. The following problems were noted:

Natural light is minimal or nonexistent. It should be increased where possible, and research should be given to the desirability of managing photo-periods with artificial light to parallel dawn-to-dusk natural light cycles.

The night quarters - a series of holding cages - typically have small shelves attached to the lower half of the rear wall of each cage. This limits the animals' use of vertical space, and, given each animal's propensity to orient itself in the direction of possible threats (i.e., toward the front of the cage), some animals sit with their tails bent in a manner that appears uncomfortable. Research and observation of each species sleeping behaviors should be undertaken and appropriate modifications placed e.g. introduce more branches, visual screening for privacy and a sense of security/protection, nets or additional shelving.

The floors of the mandrill and patas night quarters have areas of inadequate drainage, creating pooling, slow drying times, and potential health problems where cross-contamination between exhibits is possible during hose-down. The drainage problems should be corrected, keepers should be provided squeegees to reduce amount of water at conclusion of hose-down and improve drying time, and the floors should be re-sealed periodically to prevent reoccurrence of this problem.

The food in some of the night quarters is placed in metal chutes attached to the cage doors, from where it falls directly onto the floor for the animals to eat. Animal feces also fall onto the same floor. Research should be undertaken to develop methods of feeding appropriate to each species to reduce food/fecal contamination and stimulate natural behaviors.

The patas and mandrill night quarters are heated by means of a large, turbine-like heater that sounds like a giant airplane propeller when in operation. Means to reduce the noise should be investigated.

There are no isolation areas within the night quarter areas of the PDC. Facilities exist to separate and move animals, but for isolation an animal would have to be moved to the animal hospital. The possibility of adding isolation areas should be reviewed; additional night quarter cages should be built in the nocturnal section.

In conclusion, a number of corrections have been made to the Primate Center. We would particularly recommend that barriers be completed in all areas where contact between public and animals is possible, that animal habitat enrichment be developed for both exhibit and off-exhibit areas, that written animal management plans be written for each species, that the collection be reviewed and changes made so that all species are in proper group size, and that isolation/holding be added wherever feasible.

## B. KOALA EXHIBIT





The SFZ is one of the few zoos outside of Australia to exhibit koalas (Los Angeles Zoo and San Diego Zoo are the other two). 'Koala Crossing' was completed at a cost of \$500,000. The new koala facilities in Los Angeles and San Diego were already completed prior to the construction of the SFZ facility.

The Los Angeles Zoo koala facility is a large, rectangular, nocturnal (reverse lighting) house with a eucalyptus grove, a flowing stream and public viewing on two sides. The off-exhibit area is in a section behind the back wall of the public viewing area with individual cages to house each animal and ample keeper working space.

The San Diego Zoo koala facility consists of a large series of interconnected off-exhibit breeding cages with a small outdoor yard for public viewing year round.

Both the Los Angeles and San Diego facilities have had repeated breeding success with these animals, and SFZ has just recently been successful as well.

The SFZ facility resembles that of San Diego, in that a outdoor viewing yard with two tree structures, an indoor viewing area and a series of off-exhibit cages for breeding.

From this subcommittee's tour, however, some deficiencies in the design and construction of the facility were noted:

Given the SFZ climate and the requirements of this particular species, the outdoor yard can be only be utilized when temperatures are relatively warm. This requires that the night quarter area must also fully accommodate the animals' daily living needs.

The behind-the-scenes area is inadequate in the following respects:

Cages are small and there isn't a cage assembly large enough to permit the introduction of multiple animals.

U-beams implemented in construction which trap animal fecal matter.

Flooring construction does not allow for proper drainage. (note this is primarily a keeper problem because koalas rarely walk on the ground.)

No isolation/quarantine cage or area.

No direct access to outdoor exhibit from back areas without walking in public pathways.

No demarcation between public pathways and keeper service areas, which results in the public entering the latter area.

Indoor animal viewing area is very difficult to clean because of design of the wooden slats combined with lack of space.



Any successful koala facility must also consider the species' exclusive diet of eucalyptus leaves. For instance, the San Diego koala management program incorporates a eucalyptus grove on zoo grounds in order to constantly supply the animals with food. SFZ did not plan for an on-site food source during the design phase of the koala exhibit and therefore increased labor-intensive activities of animal keepers. However, a eucalyptus plantation has since been planned as part of the mitigation for Clean Water Program's activities, and we would recommend this be implemented as soon as possible.

### C. GORILLA WORLD

Gorilla World was completed in 1980 after SFZ had received funding from the Federal Government for its construction. In the beginning of the 1970's the SFZ had one of the most successful captive breeding groups in the world. The group during that period was housed in a concrete moated exhibit virtually identical to the current Chimpanzee and Orangutan grottos (the present mandrill yard is essentially a renovation of that former exhibit).

Compared to the other two case studies discussed here, Gorilla World is the most successful. The following aspects of the exhibit are particularly noteworthy:

The night quarters are virtually flawless. Consisting of a series of spacious, interconnected cages, the night quarters are constructed on a radiantly heated concrete platform elevated so that the animals are able to view their keepers from above. This is important because psychologically it gives the animals a sense of security. (Primates suffer from stress when constantly viewed from above.)

The interior lighting is excellent. Diffuse natural light from an overhead skylight bathes the entire indoor area.

Keeper concerns are well met:

night quarter platform is sloped toward from center to the edge to facilitate drainage.

A wide hallway surrounds three sides of the night quarter complex, allowing ease of viewing and access.

Animal food prep area -- sink, stove, refrigerator, cabinets -- is spacious and easy to maintain.

There is office space for reporting and record keeping complete with a telephone.

Adequate storage space exists for work equipment and other necessities.

A utility yard borders on the back side of the night quarter facility and permits vehicles access to the rear, which is important for animal transport and equipment delivery.





The outdoor enclosure is large and grassy with trees, logs, rocks and a running stream.

The shortcomings which exist in Gorilla World primarily concern the outdoor enclosure. In contrast to the night quarter feature noted above, the public views the animals from five vantage points surrounding the enclosure from above. This, combined with the lack of hiding places in the enclosure, creates a potentially stressful situation for the animals. Additional rocks and vegetation could be introduced to alleviate this condition. Additionally, the exhibit lacks heating elements for the animals while outdoors. This can easily be remedied by installing heating in the rockwork, which would add to the comfort of the animals on cold days. Finally, there is only one access between the night quarters and the outdoor enclosure. Multiple access would facilitate animal separations and movements.

## V. RECOMMENDATIONS

In conclusion, the subcommittee analyzed zoo facilities, case studies and information provided by architectural consultants to see if any significant, more general recommendations could be made that would be useful in improving existing facilities and in the designing of new exhibits:

DESIGN CRITERIA: WRITTEN DESIGN CRITERIA SHOULD BE DEVELOPED FOR ALL NEW EXHIBITS, RENOVATIONS AND MAINTENANCE OF FACILITIES. These standards would be helpful to design consultants, would organize zoo management needs, and would be useful to zoos nationally.

1. IN-DEPTH RESEARCH OF THE PHYSICAL AND PSYCHOLOGICAL NEEDS OF EACH ANIMAL SPECIES, AS WELL AS ITS BEHAVIORAL CHARACTERISTICS, SHOULD BE USED AS THE BASIS FOR EXHIBIT DESIGN AND MODIFICATIONS. This should be written and available to all members of the design teams and reviewed by curators and animal keepers. A written program should be developed from this stating the facility requirements for the animals.
2. Careful attention should be given to off-exhibit and night quarters in provision of animal needs. All exhibit areas should have isolation facilities.
3. Attention should be given to animal keeper needs, daily maintenance requirements of exhibit areas, off-exhibit areas and public areas. The requirements for each should be written and used as the basis for establishing daily written protocols.
4. A written long-term animal management program should be developed for each species exhibited, taking into consideration the constraints of exhibit size and holding capacity.
5. THE SFZ SHOULD DEVELOP CRITERIA SHEETS AND EVALUATE EVERY EXHIBIT BASED ON HOW WELL IT PROVIDES FOR THE NEEDS OF THE ANIMALS, THE VISITORS AND THE EMPLOYEES.

- how well does the exhibit approximate the animal's native





habitat?

- does it provide maximum opportunities for the animal's natural behaviors in its natural social group?
- are the night quarter areas also providing for the species nighttime needs?
- are the animals reproducing?
- are the animals in apparent good health?
- is there any stereotypical behavior evident?

6. WRITTEN STANDARDS FOR ALL MATERIALS USED IN ZOO FACILITIES SHOULD BE DEVELOPED. Guidelines should be written:

- to ensure use of quality materials
- to meet specialized criteria of animal exhibits such as non-toxicity, non-injurious
- to provide maximum durability in coastal zone climate
- to withstand impact of large public attendance
- to improve aesthetics of zoo environment.

Guidelines should include animal enrichment devices, all fencing types, paints, coatings, sealants, pesticides, cleaning agents and methods, hardware and fittings, furnishings and equipment (benches, drinking fountains, waste receptacles, etc.)

7. EMPLOYEES involved in direct animal care, exhibit maintenance, landscaping and support services SHOULD PARTICIPATE IN PROJECT PLANNING and implementation.

There appears to be lack of involvement by some employee groups in project development. All employees should be encouraged to participate in discussion and review of exhibit needs in their own work areas; management should be required to provide informational review meetings in an organized, systematic manner.

Recommendations submitted by animal keepers should be reviewed and incorporated into all facility plans as appropriate, for both new projects and current maintenance needs.

It should be noted that considerable effort has been made in current planning for Zoo 2000 as well maintenance projects to involve all employee levels.

8. WRITTEN CRITERIA SHOULD BE DEVELOPED FOR ANIMAL EXHIBIT DESIGN.



A list of criteria should be developed for animal exhibit design as a standards for evaluation of animal facilities. Such standards are relatively new and undefined in zoo exhibitry, but should be incorporated into the Zoo 2000 project management responsibility. For example, such a list would include the following:

- barriers between zoo visitors and animals should not permit any physical contact
- the surfaces of all interior holding area should be easily cleaned, drained and dried
- all food storage areas should be designed to maximize pest control, provide efficient food preparation and sufficient space
- separate handwashing facilities should be provided for animal keepers in each work area
- each work area should have adequate storage for materials, supplies, uniforms and all work equipment
- feeders should be developed appropriate to the specific requirements of each species within each exhibit area
- both indoor and outdoor areas should provide adequate space, maximize natural light, provide adequate heat, ability to separate animals, ability to move animals separately and safely, indoor isolation area, and adequate holding including outdoors off-exhibit
- design should not permit any opportunity for cross-contamination by water run-off

These are some examples of design criteria that should be developed by Zoo staff with consultants, architects, project managers and curatorial experts from other zoological institutions. It is intended to demonstrate what type of criteria would be useful, and should be further developed by professionals and experienced zoo personnel.

## B. FACILITY MAINTENANCE NEEDS

### Recommendations:

#### 1. A SYSTEMATIC REPORTING AND FOLLOW UP METHOD SHOULD BE IMPLEMENTED TO IDENTIFY AND TRACK MAINTENANCE NEEDS

- animal keepers should note maintenance needs on daily keeper reports; copy of report should remain in work areas to provide continuity, reference point, and accountability
- responsibility for followup should be specifically assigned to management personnel; keepers should be informed of action being taken and anticipated timetable



- a similar reporting format should be developed for non-exhibit areas, public areas and all other facilities
- senior management staff should be assigned responsibility for completion of maintenance requirements
- a standard response timetable should be developed (e.g. emergencies - within 24 hours; minor repairs performed in-house - within one week; major projects - written plan within one month, with funding and timing recommendations)
- an annual maintenance calendar should be developed for each facility
- systematic inspection should be performed no less than annually on each facility and reviewed by zoo director

## 2. EXISTING RESOURCES OF THE RECREATION AND PARK DEPARTMENT AND THE ZOOLOGICAL SOCIETY SHOULD BE COORDINATED.

The Recreation and Park Department and the Zoo Society both provide maintenance and craft personnel, equipment and funds for facility maintenance. A systematic management approach under a Building and Grounds unit should be explored to improve efficiency, time of response, and on-site capabilities.

## 3. A CENTRALIZED MAINTENANCE AND SHOP FACILITY SHOULD BE ESTABLISHED

Facilities used by maintenance personnel are inadequate, non-centralized, and inefficient.

## 4. AN EXHIBITS DEPARTMENT SHOULD BE ESTABLISHED ON SITE TO REPAIR, BUILD AND CREATE BOTH ANIMAL AND INTERPRETIVE EXHIBITS.

This department would be able to design and build exhibitry such as nesting boxes, feeders, waterers, animal enrichment devices, nets, artificial rockwork, trees and vines, graphic panels, exhibits and displays for educational purposes, etc. They would provide senior management direction for the Buildings and Grounds department.

## 5. A SCIENTIFIC HORTICULTURE DEPARTMENT WITH A NURSERY SHOULD BE ESTABLISHED AND A CURATOR OF HORTICULTURE HIRED TO DEVELOP THE PLANT COLLECTION, ENHANCE ANIMAL EXHIBIT AREAS, PROVIDE FOOD SOURCE/BROWSE FOR ANIMALS, AND IMPROVE THE NATURAL ENVIRONMENT.

The plant collection has become more and more important to zoological institutions as exhibit development has changed from simply caging to the creation and maintenance of natural habitats. The need to create habitats approximating the wild surroundings of animals demands scientific direction, highly specialized knowledge and daily attention to the maintenance needs of plants. An expanded nursery facility will be important to accommodate rotation of plants within animal exhibits, required to reduce impact of animal activities on live plant material.







6. PEST CONTROL FOR PIGEONS, SEA GULLS, OTHER BIRDS, AND FERAL CATS SHOULD BE ADDRESSED, WITH SUPPORT OF SPCA AND ANIMAL CONTROL COMMISSION TO FIND APPROPRIATE SOLUTIONS.
7. HOUSEKEEPING STANDARDS SHOULD BE ESTABLISHED AND MAINTAINED FOR BOTH ON AND OFF EXHIBIT AREAS.

Inspection of current facilities indicates a need for improved housekeeping, particularly in behind-the-scenes work areas. The present conditions indicate the need for major cleanup, organization of work areas, and a check-list system for followup and accountability.



#### D. PRIMATE DISCOVERY CENTER

The case study includes details of the committee's review of the Primate Discovery Center. Recommendations are as follows:

1. Animal enrichment (branches, logs, tree trunks, ropes, etc.) should be added to extend animal access to space available in higher reaches of the exhibits.
2. Corrective measures to add barriers between the public and the animals should be completed; people should not have contact with animals in any zoo exhibit.
3. Corrective closures on I-beams should be completed in all exhibits.
4. Additional plantings should be added, and an on-going re-planting program put into effect, to improve and maintain the natural environments for the animals. Seed-scattering and other stimulation of day-to-day activity should be increased as appropriate for each species.
5. Wherever feasible, night quarter areas should have natural light or increase the photo-period to parallel dawn-to-dusk light cycles for the animals.
6. Research on sleeping behaviors of each species should be done and appropriate modifications of night quarters undertaken: branches, visual screening, nets or additional shelving.
7. Methods of feeding should be researched to reduce food-fecal contamination and to stimulate natural behaviors.
8. Isolation areas should be added to night quarter areas. Holding should be added for Nocturnal Gallery animals in addition to their present on-exhibit space.
9. Written management plans should be developed for each species.

#### D. ZOO 2000

The Zoo 2000 master plan envisions a rebuilding of the entire zoo in zoogeographic regions themed to tell the story of animal survival. Animal habitats are designed to replicate natural environments, all behind the scenes buildings are to be state-of-the-art, and the architectural philosophy is one of "habitat immersion" wherein the visitor is immersed in a natural world. The Zoo 2000 plan as described appears to be well-designed to accommodate the needs of animals, with particular attention to conservation and breeding; it is a multi-level approach that would also provide a well-developed educational experience appropriate to the diverse regional population of the Bay Area.



The design team provides significant experience in the highly specialized field of zoological exhibit work, and includes professionals from a wide range of disciplines that will enhance the capabilities of zoo staff. It appears that, ten years after the design of the Primate Discovery Center, zoo architecture has developed into a field of its own and the San Francisco Zoo, along with other zoos nationally, will benefit from the specialization now available. We believe the design team and the process in place will serve the zoo well.

#### Recommendations

1. The Zoo 2000 plan should be used as an on-going, working plan, and clearly defined responsibilities should be established for implementation and periodic re-evaluation for up-dating as conditions change. It is recommended that THE PRIMARY CRITERIA FOR THE ZOO 2000 PLAN SHOULD BE CONSERVATION OF ENDANGERED SPECIES.
2. The ZOO 2000 plan should be reviewed and evaluated by the permanent zoo director. The plan should be presented to all segments of the public, zoo members, employees and governing agencies. CONSENSUS ON THE LONG RANGE PLAN FOR THE SAN FRANCISCO NEEDS TO BE DEVELOPED to solidify public support and bring together divisive factions to a common purpose.
3. A management plan and operating cost analysis is being prepared for phase 1, and for the entire master plan. This should be reviewed to ENSURE REALISTIC INCREMENTAL OPERATING EXPENSES CAN BE PROVIDED FOR as needed, rather than after-the-fact as has happened in the past.
4. BRING THE PRESENT ZOO UP TO A LEVEL OF EXCELLENCE BEFORE EXPANSION BEGINS. The Zoo intends to undertake what is called ZOO NOW immediately, to correct deficiencies in facilities, animal management areas, and public services, and to reorganize the animal collection to better utilize existing resources. There appears to be wide consensus for this approach. A significant number of improvement projects have been identified which would correct many existing deficiencies in facilities. These projects should be undertaken as soon as possible.
5. CORRECT INADEQUATE WATER PRESSURE. PROVIDE NEW PUMPS FOR SEWER SYSTEM. COORDINATION WITH ACTIVITIES OF CLEAN WATER PROGRAM SHOULD CONTINUE, AND ADDITIONAL SUPPORT REQUESTED.
6. WATER CONSERVATION SHOULD BE INCORPORATED INTO ZOO PLANNING Dump and fill operations should be converted to re-circulating systems where appropriate.





### RECOMMENDATIONS

The Finance Subcommittee of the San Francisco Board of Supervisors Zoo Advisory Committee recommends

- I. That the following methods of increasing the Zoo's funding be explored:
  - A. Issuance of a general obligation bond to provide infrastructure improvements at the Zoo;
  - B. Use of moneys from the hotel tax fund to improve and promote the Zoo as a tourist attraction;
  - C. Formation of a Scientific and Cultural Facilities Tax District;
  - D. Issuance of a directive to the Convention and Visitors Bureau to promote the Zoo as a tourist attraction;
  - E. Formation of a task force to consider regional and state-wide approaches to funding for California zoos in general and the endangered species survival programs of these zoos in particular.
- II. That a survey be done of cost-cutting measures utilized by other zoos.
- III. That funds for the following pressing needs be immediately provided to the San Francisco Zoo:
  - A. In the area of animal care, construction of squeeze cages to enable the provision of necessary and long overdue veterinary services to the giraffes and the Asian elephants;
  - B. With respect to the staffing of the Zoo, creation of positions for a General Curator and a second veterinarian.
- IV. That funds for the following needs be provided to the San Francisco Zoo in the City's next annual budget:
  - A. In the area of personnel management, creation of a continuing education fund for zookeepers to be used for professional conferences and research.
  - B. With respect to staffing, funding of the two and one-half unfunded zookeeper positions, creation of a ten-person Zoo security force, and addition of a horticulturist position and two half-time custodian positions.

An overview of the San Francisco Zoo's financial structure is set forth at page— of this report.



## INTRODUCTION

The San Francisco Zoo is one of the City's major cultural assets. Over one million visitors come to the Zoo annually. Approximately one-third of these visitors are from outside of San Francisco and therefore are part of the tourist economy. The San Francisco Zoo has the potential to become a major regional attraction and an important resource for the Bay Area's schools and universities.

Unfortunately, the Zoo has in recent years suffered from neglect resulting in the deterioration of both its physical plant and its staff. The San Francisco Zoological Society stands ready to mount an immediate short-term capital campaign ("Zoo Now") designed to raise \$5 to \$7 million for improvement of existing facilities. The Zoological Society also proposes a long term capital campaign ("Zoo 2000") to raise \$40 million for a major rebuilding program. It behooves the City to move now to join in this fundraising effort which will bring so much credit, and tourist revenue, to San Francisco.

In addition to the general deterioration brought about by underfunding and neglect, a crisis situation exists with respect to the provision of care to the animal collection. Many animals in the collection have died or fallen ill. In this area of animal welfare, the City must take immediate action to prevent further deaths, disease and injuries to the animals who are in its care.

### I. METHODS OF INCREASING THE ZOO'S FUNDING

#### General obligation bond issue

A project of infrastructure improvements for the San Francisco Zoo would be appropriate for a general obligation bond issue of \$33.5 million. Such a bond issue should be submitted for the June 5, 1990 election. A request for such a bond issue would need to be submitted to the Capital Improvement Advisory Committee by November 29 and to the City Attorney by December 8, 1989.

There is a consensus that a major rebuilding of Zoo facilities over the next 20 years will be necessary. Agreement on the specific exhibit program can be developed under the leadership of a permanent director.

The San Francisco Zoological Society has agreed to support such a bond issue and has agreed in principle to raise private funds to match public funds raised by such a bond issue through its "Zoo 2000" campaign.

The improvements to be funded by this bond issue would include new utilities, roadways, pathways, entrance facilities, parking facilities, associated public facilities and administrative facilities.

The recent earthquake caused considerable damage to utilities and public pathways at the San Francisco Zoo. There were numerous breaks in the water mains, irrigation lines and gas lines. Short-term repairs have been made to most of these breaks. However, in the process of making these repairs, staff had the opportunity to assess the condition of these underground utilities. This assessment revealed that the utilities are badly deteriorated. Patches in one spot frequently lead to new breaks elsewhere. This assessment also revealed that utility maps are not accurate which makes repair and maintenance difficult and costly.





The entire utility system at the Zoo is approximately sixty years old and beyond its useful life. There is considerable doubt as to whether the existing utilities can continue to support the existing exhibits without compromising animal care and the health and safety of the public. An estimate of the cost of replacing the water, electrical and gas supply systems has been prepared by the firm of Esherick Homsey Dodge and Davis. This estimate also included costs for a new public entrance, expanded parking, roadways, paths and public facilities. The total cost of all of these improvements would be approximately \$33.5 million in 1990 dollars.

#### HOTEL TAX FUND

The Zoo is a facility that assists the tourist economy and hence should receive moneys from the Hotel Tax Fund. The potential for tourist activity at the Zoo is tremendous. A concerted lobbying effort by the City to have the Zoo promoted by hotels and tour operators would substantially increase the numbers of tourists visiting the Zoo. At present, tour buses do not come to the Zoo and hotels do not recommend the Zoo.

Revenues from the Hotel Tax Fund can be allocated to the Zoo in two ways. The first and most simple method would be for the Mayor to assign to the Zoo moneys from that portion of the Hotel Tax Fund that would otherwise have gone into the General Tax Fund. The second method would be for the Chief Administrative Officer to utilize his discretion to allocate to the Zoo moneys from the Publicity and Advertising Fund of the Hotel Tax Fund.

#### SCIENTIFIC AND CULTURAL FACILITIES TAX DISTRICT

This proposal is borrowed from Denver, Colorado, which created such a tax district in 1988.

On November 8, 1988, voters of the six-county Denver metropolitan area created the Scientific and Cultural Facilities District by a vote of 75 percent. From a tenth of a cent sales tax, the newly established District will create a yearly fund of \$13 million for distribution by a series of formulas to the region's zoo, natural history museum, art museum, botanic gardens, ballet, operas, symphony and performing arts organizations. The passage of the District by an overwhelming majority of the voters marked the culmination of five years of effort by trustees from major cultural institutions.

In 1982, the Colorado legislature revoked \$2 million previously provided for the zoo, art museum, natural history museum and botanic gardens. The largest of the area's cultural facilities are located in the city of Denver, but over two-thirds of the visitors live in the suburbs. Only Denver was contributing any financial support and the amount was declining yearly due to revenue shortfalls.

Trustees from the institutions began an effort to restore the missing funds and create a long-term financial floor under the facilities. The objective was to purpose to the legislature the establishment of a regional special tax district. In 1986, the first version of the legislation was defeated in the house of representatives. A revised bill passed in the 1987 legislature and was signed into law in May 1987 by Governor Roy Romer.





A group of trustees from the largest cultural institutions in the district formed a steering committee to raise funds for a political campaign culminating in an election on November 8, 1988.

Ciruli Associates who had helped manage the legislative effort was hired by the steering committee to plan and implement the campaign. The steering committee was an active participant in guiding the campaign. The committee was assisted by advisory and financing groups which expanded participation, raised over \$700,000, provided access to regional community leaders and added experienced decision-makers.

The initial proposal was well conceived. The level and type of tax, the beneficiaries, the distribution formula and the governing board were basic concepts that had to be defensible to civic leaders and the media, attract business and governmental support reduce internal conflicts among cultural groups and geographic regions and avoid negative voter perceptions. The tax proposal and its benefits must be perceived by the voters to be in the public's and the community's best interest.

Any tax proposal will have some negative implications. The goal is to minimize them while adding attractive features.

The District ballot language was designed to maximize the positive aspects of the basic proposal while reducing the negative impact of the tax.

Shall the zoo, museums and cultural programs in the six county metropolitan area receive proceeds from a one-tenth of a cent sales tax to be distributed according to law with strict limitations on administrative costs with a guaranteed amount for each county and governed by a board with representatives from the six counties? (Ballot language, Scientific and Cultural Facilities District, 1988)

#### CONVENTION AND VISITORS BUREAU

As previously stated, the San Francisco Zoo has a great but currently unrealized potential as a tourist attraction. The convention and Visitors Bureau should make it a high priority to work with the Zoo to realize this potential.

#### TASK FORCE TO CONSIDER REGIONAL AND STATE FUNDING

Several interesting and innovative ideas for new funding sources emerged in the final meeting of the Finances Subcommittee. One was to take a regional approach to Zoo funding problems, establishing a Greater Bay Area Scientific and Cultural District along the lines of the Denver, Colorado, model discussed above, or modeled after the regional transportation district currently in existence in the Bay Area. A related approach, which could be pursued either on a regional model or as a state-wide program, would be propose legislation appropriating funding for endangered species programs. Yet another idea involved lobbyists — either instructing the City's lobbyist to keep the needs of the Zoo in mind in his or her Sacramento activities, or clubbing together with other municipalities having a zoo to fund a "Zoo lobbyist" who would seek to include funding for zoos or endangered species survival programs in bills relating to the environment.

In summary, more time and attention should be devoted, by persons having more knowledge of the legislative process, to the possibility of regional and state solutions to problems of zoo and endangered species survival program funding.



## II. COST-CUTTING MEASURES

The Oakland Zoo has been very successful in soliciting and receiving materials from private contractors. For example, Pacific Bell or PG&E donated poles which were used by the zoo to build cages. In general, the Director acts as his own general contractor. Also, the Oakland Zoo keeps costs down by investing in low-maintenance animals and non-union labor. Neither of these latter two cost-cutting measures are appropriate for the San Francisco Zoo. However, a survey of other zoos across the country would presumably elicit information of cost-cutting innovations, such as the utility pole example above, which would be utilizable by the San Francisco Zoo. Such a survey could be done by written questionnaire and need not be expensive to conduct.

## III. FUNDS IMMEDIATELY NEEDED

Squeeze cages are urgently needed to enable the provision of veterinary services to the Asian elephants and the giraffes. A squeeze cage, also known as a "crush," is a device that allows humans to provide medical care to undomesticated or partially domesticated animals without fear of harm. The squeeze cage thus benefits and protects both the humans and the animals. Had there been a squeeze cage in the Asian elephant exhibit one year ago, Gail Hedberg, the veterinary technician whose pelvis was crushed by an Asian elephant, would not have suffered harm. The only alternative to a squeeze cage is anesthesia, but the administration of anesthesia to exotic animals is an inexact science carrying with it a high risk of death. Witness the recent deaths under anesthesia at the San Francisco Zoo of the white-fronted lemurs, an endangered species.

A giraffe squeeze cage would cost approximately \$35,000.00. A squeeze cage is urgently needed to allow the provision of medical care to a young male giraffe suffering from a hoof condition that has deteriorated to the point that it is painful for him to walk. The condition may ultimately prove fatal. The squeeze cage would not only allow an attempt to arrest this particular giraffe's hoof condition before it is too late, but would also permit implementation of a future program of regular hoof care and other veterinary services to the giraffe herd as a whole.

An elephant squeeze cage would cost approximately \$70,000.00. A squeeze cage is urgently needed for the Asian elephants not so much to deal with present medical conditions, though the elephants, too, suffer from untreated foot problems, but rather to enable the humans charged with caring for the elephants to provide routine medical care without endangering themselves. Many Zoo employees are understandably reluctant to deal with the elephants at close quarters as a result of last year's attack by one of the Asian elephants on a veterinary technician attempting to provide medical care. (For related information see the report of the Facilities Subcommittee.)

For further information on the elephants and the giraffes, see the Animal Care Management Report and the Veterinary Services Report.

### General Curator and Second Veterinarian

The salaries of a General Curator and a second veterinarian would each be \$60,000.00. With fringe benefits figured at 27% of salary (\$32,000.00 for both salaries), the total cost of adding these two positions is \$152,400.00.





Many zoos of San Francisco's size have a General Curator. The volume of work, involving both animal management (curatorial) and administrative matters, requires such a position. In light of the San Francisco Zoo's history of animal management difficulties (see the Animal Care Management and Veterinary Services Report), creation of a General Curator is desirable to oversee the present staff.

The size of the Zoo's collection necessitates addition of a General Curator who will oversee the work of the Curator of Mammals and the Curator of Birds and coordinate the animal care programs of the Children's Zoo, the Avian Center, the Insect Zoo and the Animal Resource Center with those of the rest of the Zoo. A coherent plan of management of the present collection does not now exist. Such a plan must be developed and implemented in the very near future. Written protocols for the day-to-day management of each species are necessary, as are written long-term plans for the future management and breeding of each species. These plans must be coordinated with the major program of re-design and expansion to be implemented by a new Director. Taken together, these curatorial responsibilities amount to a full-time job.

A second veterinarian is needed at the San Francisco Zoo to provide veterinary care during the 150 days per year that on-site veterinary care is currently not provided at the Zoo. This second veterinarian should have expertise in the area of zoonotic diseases, which diseases continue to plague both the animals and their human keepers at the Zoo. Although two veterinarians would be needed at the San Francisco Zoo under the best of circumstances, the need is particularly acute now. The addition of a second veterinarian position is urgently required to protect the welfare of the animals at the San Francisco Zoo, many of whom are members of endangered species. (For further discussion of the perceived inadequacy of the work of the present veterinarian, and for a discussion of zoonotic disease at the San Francisco Zoo, see the Veterinary Services Report.)

N.B. THE RECOMMENDATION TO ADD A POSITION FOR A SECOND VETERINARIAN IS MADE BY A 3 to 1 VOTE OF THE FINANCES COMMITTEE. The dissenting opinion is attached to this report as Exhibit A.

#### IV. FUNDS TO BE PROVIDED IN NEXT YEAR'S BUDGET

##### Continuing Education Fund

A continuing education fund for the professional education and research activities of the zoo keepers would cost approximately \$15,000.00 per year. Many of the keepers have advanced degrees or have developed a high level of expertise in their fields. They are professionals who want to, and should, keep up with new developments in their fields and share their knowledge with other specialists. The morale of the animal keepers at the San Francisco Zoo is bad. A continuing education fund would ensure the maintenance of a high quality of animal care at the Zoo and raise keeper morale at minimal expense to the City. (For further discussion of morale problems at the San Francisco Zoo, see the Employee Relations Report.)

##### Zookeepers, Zoo Security Force, Horticulturist, Custodians

The Zoo's difficulties stem at least in part from the fact that it is understaffed. Funding of the 2 1/2 unfunded keeper positions would cost \$100,000.00, including benefits. The salary for a horticulturist is \$50,000.00, for 10 FTE security personnel \$100,000.00, for two half-time custodians \$25,000.00.





Figuring fringe benefits at 27% of salary, the total cost to the City of adding all of these positions, including the unfunded keeper positions, is \$322,250.00. The most pressing needs in this category are the keeper positions and the Zoo security force.

As previously stated, the San Francisco Zoological Society is ready to mount a short-term capital campaign, tentatively titled "Zoo Now," to raise \$5 to \$7 million for improvement of existing facilities. See page — of this report for a detailed description of Zoo Now. A parallel program of Zoo-wide management improvements should accompany the physical plant improvements. Proper management of physical plant is necessary to maintain and preserve the present Zoo as it positions itself to move forward into the twenty-year, \$80 million rebuilding program of Zoo 2000.

#### OVERVIEW OF THE SAN FRANCISCO ZOO'S FINANCIAL STRUCTURE

The San Francisco Zoo's total operating budget for the year 1989 was nine million, seven hundred thousand dollars (\$9.7 million). The San Francisco Zoo's operating revenues for 1989 were obtained from the following sources: fifty-six percent (56%) from the San Francisco Zoological Society; twenty-three percent (23%) from the City of San Francisco; twenty-one percent (21%) from zoo admission fees. See Exhibit B. The Zoo Society contribution to the Zoo is made from its retail operations revenues and general (not capital) contributions. The Zoo Society's retail operations include the concessions at the Zoo (food stands and gift shops). The Zoo society also receives all income derived from admissions fees at the Children's Zoo.

The City's contribution to the Zoo is made from the General Tax Fund. Income from Zoo admission fees goes to the Recreation and Park Department to help fund the Zoo. Income from admission fees is approximately two million one hundred thousand dollars (\$2.1 million). The annual City budget for the Zoo is approximately five million dollars (\$5 million), including the capital budget. Thus the General Tax Fund subsidy from the City to the Zoo was approximately two million nine hundred thousand dollars (\$2.9 million) in 1989-1990 dollars. (For related information, see the subcommittee reports on the Zoological Society and on Municipal Structure.)

#### Budget Processes

Attached is the current operating budget for the Zoo. (See Exhibit C). The City budget process is as follows: (1) the Mayor provides the Recreation and Part Department with a General Fund allocation for the Department's operating budget. This allocation is supplemented by the Department's revenue fund (revenues raised by department programs, including Zoo admissions). The General Manager provides the director of each operating unit (the Zoo is an operating unit) with a funding allocation and asks the director to prepare a budget which can be supported with that allocation. At the same time, the director can prepare additional requests (in priority order) which exceed the funding allocation for discussion purposes. The General Manager and the 5 directors (including Zoo director) then meet to discuss the Departmental budget. The resulting budget is then submitted to the Recreation and Park Commission for review and approval. Once approved, the budget is sent to the Mayor. The Mayor then prepares the City and County budget for submission to the Board of Supervisors. The Board of Supervisors cannot add to the operating budget, but can make deletions. The Board of Supervisors can increase the capital budget as long as the entire budget is in balance.



. The Zoological Society budget process is carried out on an annual basis. Its fiscal year ends June 30. Each spring senior staff prepares program plans with specific objectives. The review process includes the executive director, the Board of Directors and its committees, and a preliminary line item budget is prepared by staff for detailed review of the Finance Committee of the Board. The final budget is prepared, based on the approved objectives for the year, and approved by Finance Committee and the Board of Directors. The Board of Directors sets financial policy for the Society, primarily through the recommendations of the Audit/Finance Committee and senior officers.

The Zoo Director has an opportunity to participate in and review the Society's budget, and to review and establish objectives. The budget and its objectives are brought to the Joint Zoo Committee for review and approval, and forwarded with recommendations thereto to the Recreation and Park Commission.

### Zoo Admissions Fees

Persons speaking during the Public Comment portion of meetings of the Zoo Advisory Committee have claimed at various times that the San Francisco Zoo's admission fees are too high too low. Surveys of fees at other zoos in the years 1987 and 1988 are attached as Exhibit D. Note that the definition of "child" varies from zoo to zoo on the 1987 Survey but that most zoos charge for children over 4 years of age (whereas S.F. has no charge for children under 12 and no charge for school groups).

Another question raised by member of the public at Zoo Advisory Committee meetings is whether admission fees should be waived for members of the Zoological Society. An analysis of that issue is set forth below.

#### Attendance/Fee analysis, 1988-89:

Attendance:	1,160,761
Paid:	38%
Free:	62%
Adult/Child ration:	51%:49%
Analysis of Free:	
child	40.5%
child in group	8.9%
Society member	6.8%
adult	3.6%
adult in group	1.9%

Using this information for base circulation, an estimate of fee waiver for Society members is \$200,886 (9.7% of total admission fee revenue). This assumes that the membership represents the same ratio of adults to children as the general zoo visitorship.

Assessment of the fee waiver should include a review of perceived value of free admission to members, visitorship patterns of members vs. general zoo visitorship, the total contribution of members to the zoo, how that contribution is used to support the zoo, and the importance of members in fulfilling the overall purpose and mission of the zoo. A review of member/admission policies of other zoos is also appropriate to assessment of the policy in San Francisco.

A June 1988 Member Survey, (Exhibit B) prepared by Morey and Associates,





indicates that 91% of members visit the Zoo at least once a year, and 69% of those visit three or more times a year; 81% of members with children who visit the Zoo at least once a year have made three or more visits in the last 12 months, compared with 60% of those without children.

In comparison, Zoo Visitor Survey, July 1989, (Exhibit C) indicates 22% of visitors were making their first visit, and 47% made prior visits to the zoo in the last 12 months. Conclusion: members visit more frequently than general visitors; members are more likely to have children than non-members; members with children make the most repeat visits.

The primary reasons members join are:

support community resources	85%
free admission to zoo	62%
members-only events	43%
classes, etc.	20%

71% of Family Members, representing two-thirds of the membership, identified free admissions as a reason for membership. 78% of those with children in their household mentioned free admission as a reason for membership, compared with 50% of those without children. Conclusion: fee admission is an important benefit and primary reason for membership, particularly for new members.

Financial contribution of members to the San Francisco Zoo, fiscal 89:

Dues	\$1,089,323
Other, general	908,204
Restricted, capital	<u>1,182,361</u>
Total contributions from members 88-89	\$3,179,888

The total financial contribution of the Zoological Society members for fiscal 1988-89 was \$3,179,888, or an average gift per member of \$113.98. Almost all capital gifts for zoo improvements come from Society members. The number of members and their financial participation is a significant factor indicating the level of community support for the Zoo. Foundations, corporations and governments agencies evaluate membership support when considering grant awards to the zoo.

Contributions made by Society members fund direct membership services such as educational activities, zoo events, publications, tours, etc. Membership contributions subsidize operating expenditures for the zoo (education, volunteer program, marketing, public relations, graphics, pest control, etc.) which totaled \$455,740 in 1989, and \$1,214,938 in the past four years. In addition to providing operating funds, contributions from members support planning and development required for capital improvements (architectural services, engineering, design team fees, construction and contract administration) which result in direct saving for the zoo.

Summary: Society members provided \$3,179,888 in contribution in fiscal 1989, or an average of \$113.98 per member. Admission fee waiver totaled \$200,886, or an average of \$7.20 per member. Over a period of years, and considering the growth of membership in the Zoological Society, Society members represent a major source of funds for the zoo. These gifts provide operating funds for a variety of services





and capital projects. They are a significant indicator of community support and an important factor ensuring the zoo's ability to raise foundation, corporate and government funds. Present Recreation and Park policy to offer free admission to members supports the growth of zoo membership, recognizes its financial benefits to zoo operations and zoo capital development.

Free admission for society members is standard policy at most cultural institutions including museums and zoological parks. Additionally, reciprocal free admission to zoological society members is offered by 89 zoos nationally.

### Future Capital Needs

Capital Needs: The Zoo is old. Major improvements are needed to the water, sewer, gas and power systems. A new maintenance facility is needed, as is an employee shower and change facility. Major exhibit improvements are needed in the elephant house, giraffe barn, Africa string, backstring, outside aviary, PDC, triple grotto, musk ox exhibit, small cat exhibits and lower lake. In addition, improvements are needed for the veterinary hospital and off-exhibit holding areas need to be created. The Zoo Now program is targeting these and other needs for immediate attention. The anticipated cost of these improvements is \$5 - \$7 million.

ZOO NOW - a zoo-wide renewal project, is an immediate program of improvements needed to bring the present zoo to a standard of excellence in facilities and services. It addresses the entire zoo and provides:

- animal enrichment and improved exhibit space for animals zoo-wide (e.g. small cats, otter, bears, siamangs, birds, musk ox, primates, etc.)
- new exhibits for snow leopards, persian leopards, jaguar, mountain lions, grey kangaroos; development of off-exhibit holding in current small cat area
- improved veterinary care by building off-exhibit rest, recovery, retirement and additional quarantine facilities, expanding and improving the animal hospital's space and equipment
- consolidated, efficient facilities for maintenance, custodial, horticultural, shop and retail support services.
- expanded educational services by developing a new identification and interpretive signage system for animal exhibits; reorganizing the animal collection, where possible, into zoogeographic areas to improve teaching capabilities; and providing additional classroom space for interpretive programming.

In order to accomplish the zoo-wide program, the zoo has been divided into 9 zones and project development is proceeding in each zone. A series of zone workshops are being held to include zoo-wide participation. Priorities will be established by the permanent director.

Funding for the ZOO NOW is estimated at \$5 - \$7 million, with an Endowment Fund component to provide long-term funding to maintain ZOO NOW improvements. The Zoological Society has committed to raising the funds to accomplish ZOO NOW, as a first step in positioning the zoo in a major rebuilding program - ZOO 2000. A campaign plan has been developed by the Zoological Society to secure \$7 million by



the end of 1990. The City's support for ZOO NOW, in the form of operating revenue to secure additional personnel positions allowing for the proper management of the ZOO NOW improvements to the physical plant, is essential.

#### Animal Purchase Fund

The City contributes nothing to this fund. Proceeds from animal sales are deposited into this fund which currently totals approximately \$39,000. The Zoological Society has provided funds for animal acquisition, ranging from direct purchase (gorilla, \$75,000, paid by the Zoological Society to the King Mehendra Trust, a conservation project in Nepal, in exchange for a pair of greater one-horned rhinos, made possible by donors), to payment of related expenses (air freight, accompanying curatorial, keeper or veterinarian support personnel, crates, etc.) these monies are handled directly by the Zoological Society, authorized by the zoo director and the Society executive director, and typically restricted in their purpose by donors. Funds for animal acquisition are budgeted as part of capital costs for new projects (e.g. Primate Center).

#### Veterinary Services Costs

Salaries and fringe benefits for the veterinarian and veterinary technicians amount to \$34,000. Laboratory tests are \$20,000.



## **Appendix**

Comments compiled by

Susanne Barthell, 1 of 4 Finance Sub-Committee Members and  
Sophie Papageorge, Zoo Advisory Committee Member





## Appendix to Finance Committee Report

### Comments:

The Finance Sub-Committee Report has good suggestions for long-term and necessary funding sources for the Zoo, but not enough was discussed about cost-cutting measures. Quite a few such suggestions were made to this Committee at its one public meeting 10/29/89:

1 - If Senior Keeper positions are eliminated (even though they would have the option to return as Animal Keepers) the least amount of savings would be approx \$4,000 for each who chose to stay as a Keeper. If all four returned as Keepers (and there is a need for more full-time Keepers), the savings would be approx \$16,000. If all four left the Zoo approx \$200,000 (fringes included) would be saved. (Please refer to the Employee Relations Sub-Committee Report for a discussion of the restructuring of Sr. Keeper positions.)

N.B. Several Keepers of Primates have scientific degrees, while the Curator of Mammals does not have either a college degree or a scientific background. The qualified Keepers could be used for much greater benefit to the Collection in assisting curatorial staff if their interest and expertise were called upon.

2 - Community resources which abound in this area could be used to a much greater degree--UCB, UCD, Stanford, private interested and qualified vets--to help supervise Keeper studies on the Zoo's collection. Many have expressed interest in doing such work. This would have secondary benefits of developing Keepers as captive animal husbandry experts. A wealth of information re captive animals is NOT being studied presently.

3 - At present there is a 3:1 ratio of Keepers to management staff and The Acting Director speaks of enlarging management further. Senior Keeper positions are highly cost ineffective and repeatedly cited by Keepers as largely "cushy", non-working jobs for favorites of the former Zoo Director, performing duties that many Keepers could do as well or better. They are--in that form--a source of poor morale (see Employee Relations Report). Rather than enlarge the management staff even further, it would seem far more prudent to replace the poorly performing members of management with highly qualified and willing workers, not simply add to the super-structure as in hiring a General Curator or an Assistant Director. Increased management is not needed. Knowledgeable management in the existing management positions is what is needed--desperately.

Regarding funding a General Curator, many of the same arguments against it exist as for funding a second veterinarian (see attached): namely, that the cure for unsatisfactory performance by one worker--in the business world--is to replace the unsatisfactory worker and never to hire an additional one to do the job better, while keeping the unsatisfactory worker at full salary. This seems to be the case only in a bureaucracy staffed by civil servants. (Thus providing a good argument for exempting such management positions from civil service status.)

4 - Many questions arise concerning the budget item: Curator of Exhibits which translates in fact into a person responsible for signage at the Zoo. This job category was not thoroughly examined, but better signage has been called for from many--and at \$48,000/annum, could reasonably be expected.

5 - If there are to be more management--or Keeper--positions created, the in-coming Director should be allowed to decide those needs in line with his/her



assessment of the Zoo's needs. We should not be endorsing the requests of the present Acting Director who has not shown an ability to assess objectively his present management staff. (Refer to Animal Care, Employee Relations and the Veterinary Care Sub-committee reports for many examples of poor job performance by the managerial staff.)

6 - Another cost-effective measure to benefit the Collection would be the regular use of local university professors who in many cases are able to allocate up to one-third of their professional time to community service projects.

7 - Significant savings was suggested by a veterinarian who advised purchasing blood equipment for routine blood panels--something this vet uses very frequently for diagnostic purposes--the estimated cost would be about \$10,000. This would save approximately \$2,000/month currently spent for sending blood out to a Lab to be analyzed.

Additionally, questions were solicited by the Finance Committee from the Zoo Advisory Committee as a whole which were not answered in the report, e.g.:

- Who is responsible for, over-seeing the Animal Purchase Fund?
- How often is a report made about the money in the Fund and to whom?  
In June, 1989, the fund totalled about \$39,000.
- Who decides which animals to add to the collection and on what bases?
- Who decides on sales (before the sale is made) and on what bases?
- What is the cost of replacing animals to the collection, annually?  
(As can be seen from p.5 of the Veterinary Care Report, this could be a sizeable amount if over half the Collection needs replacement in a given five-year period.)
- What is the amount of money entailed in the Breeding Loan losses, either here or of our animals at other zoos?
- What is the total amount of money needed to run the hospital-medical care program annually (exclusive of salaries)? (and inclusive of salaries?)  
A list of general categorical amounts were given by the Acting Director, but not a total budget which would include the amount spent on consultants as well as laboratories and drug and supplies' vendors.
- What are the broken down costs of running each animal string, annually?  
Of particular interest were those believed to be quite high: the Koala exhibit and the Megellanic Penguins.
- How much income is generated annually by selling the non-endangered Axis Deer and Waterbuck (whose breeding is uncontrolled)?

The Acting Director has been unable to say why there are three drug accounts --at Central City Medical, Luck Pharmacy and S. F. General--or how many animals were worked up at the Oregon State University Pathology Laboratory which earned \$3,000 for their work for the Zoo in 1989.

N.B. With Regard to Hiring a Second Vet at S. F. Due to Size of Collection:  
Based on the 26 surveys returned to us by other U.S. Zoos with profiles similar to the S. F. Zoo, only two have two vets for collections of similar size. All others with two or more vets have collections from 200 - 1200 more specimens of mammals, birds and reptiles.





## WHY A SECOND VETERINARIAN SHOULD NOT BE HIRED FOR S.F. ZOO

The reasons for opposing the hiring of a second veterinarian at the S.F. Zoo are as follows:

The (publicly denied, privately acknowledged) reason that those within the Zoo--Rec. & Park Dept. want to hire a second vet is that they cannot get rid of the present one, despite--

- A Zoological Society vote of no confidence from its Board of Directors,
- A public denunciation of this vet by the Zool. Society president,
- Several private requests that he resign.
- A "golden parachute" offer via the Zool. Society that he resign,
- An 8-month on-going critical investigation of his veterinary practices which has re-opened long-standing community and keeper censure of his incompetencies and uncovered more reasons for it.

It must be concluded that Dr. Machado does not wish to leave his highly paid (\$68,000), civil service-protected position.

Advocates propose to hire a second vet "to upgrade the quality of animal care at the Zoo" presumably under the same conditions that the present one was hired. This could conceivably lead to two highly-paid, civil service-protected vets of which the City is unable to rid itself.

On the other hand, it could lead to a succession of vets in and out the door as they discovered either a) that they had been hired to "cover" for the existing vet or, b) that the bad publicity accruing to the ever-questionable veterinary practices under Dr. Machado was not a career-enhancing opportunity for them.

Further, it is highly unlikely that a reputable and qualified vet for exotic animals would come to work with Dr. Machado if they knew of his reputation or that the person would remain once they found out for themselves.

Further, it contradicts the Zoo's own commissioned peer review, released in July 1989 which stated that a second vet was not necessary for a collection the size of ours.

The 1990s will undoubtedly become the wild animal awareness decade and zoos will be particularly suited and properly designated as public stewards for exotic and endangered species. It will surely not be possible to build a "world-class zoo" befitting the City of San Francisco as long as such a key problem as superior veterinary care is not faced squarely and honestly and dealt with assertively by everyone involved with it.

A Position Paper from members of the Vet Care Subcommittee of the SF Zoo Advisory Committee. October 10, 1989.





## Exhibit A

### Why a Second Veterinarian Should NOT Be Hired for S.F. Zoo at This Time

The reason for opposing the hiring of a second veterinarian at the S.F. Zoo are as follows—

The (publicly denied, privately acknowledged) reason that those within the Zoo—Park & Rec Dept. want to hire a second vet is that they cannot get rid of the present one, despite—

A Zoological Society vote of not confidence from the Board of Directors,

A public denunciation of this vet by the Zool. Society president,

Several private requests that he resign,

A "golden parachute" offer via the Zool. Society that he resign,

An 8-month on-going critical investigation of his veterinary practices which has re-opened long-standing community and keeper censure of his incompetencies and uncovered more reason for it.

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Further, it is highly unlikely that a reputable and qualified vet for exotic animals would come to work with Dr. Machado if they knew of his reputation or that the person would remain once they found out for themselves.

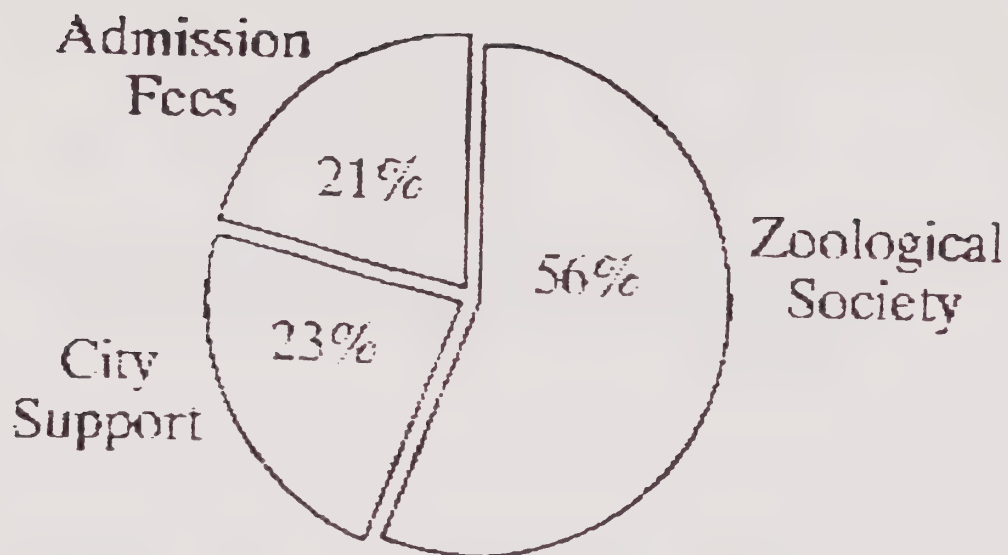
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A Position Paper from members of the Vet Care Sub-Committee of the S.F. Zoo Advisory Committee: 10-10-89



# EXHIBIT B



TOTAL = \$9.7 Million

**OPERATING REVENUE 1989**



EXPENDITURE DETAIL REPORT  
(INCLUDES TRANSFERS)

SECTION: 420800 200  
ACTIVITY: 00 200

OBJECT# TITLE

\*\* CY ORIGINAL \*\*  
APPRVD \$

\*\*\*\*\* MAYOR \*\*\*\*\*  
BUDGET \$

\*\*\*\*\* BOARD \*\*\*\*\*  
APPRVD \$

FUND: 01001 GENERAL FUND  
INDEX: 621458 200 - G.F.  
PROJ/WP: 00000 MARKTG & SPECIAL EVENTS

001	PERM. SALARIES-MISC.	2,126,600	2,309,952	2,309,952
003	PERM. SALARIES-CRAFT	222,426	239,136	239,136
010	OVERTIME	59,178	80,478	80,478
012	HOLIDAY PAY	84,116	79,079	83,694
020	TEMPORARY SALARIES	44,854	54,229	51,229
060	MANDATORY FRINGES	682,723	707,611	708,441
111	USE OF EMPLOYEE CARS	50	50	50
TOTAL PROJ/WP:		3,219,947	3,471,335	3,475,980
TOTAL INDEX:		3,219,947	3,471,335	3,475,980
TOTAL FUND:		3,219,947	3,471,335	3,475,980

FUND: 02229 REVENUE FUND  
INDEX: 621839 200 - SF  
PROJ/WP: 00000 MARKTG & SPECIAL EVENTS

109	OTHER CONTRACT. SVCS	163,700	189,885	186,700
113	TRAINING	6,000	18,000	18,000
115	SEWER SERVICE CHARGE	176,707	392,513	392,513
120	OTHER SERVICES	44,609	44,609	44,609
130	MATERIALS & SUPPLIES	454,780	477,520	500,258
140	FIXED CHARGES	135	135	135
144	MEMBERSHIP DUES	7,765	7,765	10,765
220	EQUIPMENT PURCHASE	49,800	48,250	48,250
304	MEDICAL SERVICE	15,700	15,700	15,700
330	LIGHT, HEAT & POWER	118,330	125,080	125,880
TOTAL PROJ/WP:		1,037,526	1,320,257	1,342,810
TOTAL INDEX:		1,037,526	1,320,257	1,342,810
TOTAL FUND:		1,037,526	1,320,257	1,342,810
TOTAL ACTIVITY:		4,257,473	4,791,592	4,818,790
TOTAL SECTION:		4,257,473	4,791,592	4,818,790

REPORT TOTALS:

51,866,137

58,476,704

58,036,221

EXHIBIT C





# POSITION DETAIL REPORT

SECTION: 420800 ZOO  
ACTIVITY: 00 ZOO  
FUND: 01001 GENERAL FUND

POS/EQ#	TITLE	** CY ORIGINAL ** #	APPRVD \$	MAYOR #	BUDGET \$	BOARD #	APPRVD \$
INOEX:	621458 ZOO - G.F.						
PROJ/MP:	00000 REFORESTATION						
OBJECT:	001 PERM. SALARIES-MISC.						
SUBOBJECT:	0010 PERM.SALARIES-MISC.						
1424 A	Clerk Typist	1	21,868	1	24,713	1	24,713
1424 W	Clerk Typist	425	0	(1)	(24,713)	(1)	(24,713)
1450 W	Executive Secretary I	425	0	1	32,606	1	32,606
2290 A	Zoo Veterinarian	1	65,351	1	73,181	1	73,181
2440 B	Veterinary Lab. Tech.	2	76,545	2	83,043	2	83,043
3302 A	Vendor	2	34,191	2	39,568	2	39,568
3320 B	Animal Keeper	39	1,190,573	39	1,293,514	39	1,293,514
3321 B	Sr. Animal Keeper	4	143,220	4	155,396	4	155,396
3322 A	Asst. Head Animal Keeper	1	39,878	1	43,271	1	43,271
3324 A	Head Animal Keeper	1	43,896	1	47,680	1	47,680
3340 A	Zoo Director	1	78,767	1	86,832	1	86,832
3342 A	Zoologist	2	99,735	2	103,065	2	103,065
3360 A	Curator of Zoo Exhibits	1	44,969	1	47,892	1	47,892
3417 A	Gardener	9	281,566	9	305,458	9	305,458
3422 A	Park Section Supervisor	1	39,879	1	43,272	1	43,272
4321 A	Cashier II	1	23,464	1	26,569	1	26,569
9991ZA	One Less Working Day	0	0	0	(9,121)	0	(9,121)
9993ZA	Salary Savings	0	(57,302)	0	(62,274)	0	(62,274)
A955EN	ASSISTANT ZOO DIRECTOR	0	0	1	0	1	0
TOTAL SUBOBJECT:		66	2,126,600	67	2,309,952	67	2,309,952
TOTAL OBJECT:		66	2,126,600	67	2,309,952	67	2,309,952
OBJECT:	003 PERM. SALARIES-CRAFT						
SUBOBJECT:	0030 PERM SALARIES CRAFT						
2708 A	Custodian	7	154,155	7	166,147	7	166,147
2718 A	Custodial Supervisor I	1	28,001	1	30,219	1	30,219
7355 B	Truck Driver - Heavy	1	40,270	1	43,689	1	43,689
9991ZA	One Less Working Day	0	0	0	(919)	0	(919)
TOTAL SUBOBJECT:		9	222,426	9	239,136	9	239,136
TOTAL OBJECT:		9	222,426	9	239,136	9	239,136
OBJECT:	010 OVERTIME						
SUBOBJECT:	0100 OVERTIME						
2440 B	Veterinary Lab. Tech.-	0	2,670	0	2,884	0	2,884



# POSITION DETAIL REPORT

SECTION: 420800 Z00  
 ACTIVITY: 00 Z00  
 FUND: 01001 GENERAL FUND

POS/EQ#	TITLE	** CY ORIGINAL ** #	APPRVD \$	***** #	MAYOR BUDGET \$	***** #	BOARD APPRVD \$
2708 A	Custodian	0	0	0	3,233	0	3,233
3302 A	Vendor	0	0	0	2,203	0	2,203
3320 B	Animal Keeper	0	40,276	0	54,542	0	54,542
3321 B	Sr. Animal Keeper	0	9,992	0	10,841	0	10,841
3322 A	Asst. Head Animal Keeper	0	2,912	0	3,160	0	3,160
3324 A	Head Animal Keeper	0	3,328	0	3,615	0	3,615
TOTAL SUBOBJECT:		0	59,178	0	80,478	0	80,478
TOTAL OBJECT:		0	59,178	0	80,478	0	80,478

OBJECT: 012 HOLIDAY PAY  
 SUBOBJECT: 0120 HOLIDAY PAY

2440 B	Veterinary Lab. Tech.	0	3,000	0	3,131	0	3,131
2708 A	Custodian	0	11,000	0	12,032	0	12,032
3302 A	Vendor	0	7,477	0	8,179	0	8,179
3320 B	Animal Keeper	0	52,208	0	56,627	0	56,627
3321 B	Sr. Animal Keeper	0	4,627	0	5,020	0	5,020
3324 A	Head Animal Keeper	0	3,027	0	3,288	0	3,288
7355 B	Truck Driver - Heavy	0	2,777	0	3,013	0	3,013
9995EA	ONE LESS HOLIDAY	0	0	0	(11,411)	0	(7,596)
TOTAL SUBOBJECT:		0	84,116	0	79,879	0	83,694
TOTAL OBJECT:		0	84,116	0	79,879	0	83,694

OBJECT: 020 TEMPORARY SALARIES  
 SUBOBJECT: 0200 TEMPORARY SALARIES

2290ED	Zoo Veterinarian	0	12,518	0	14,018	0	14,018
2440ED	Veterinary Lab. Tech.	0	9,183	0	10,356	0	10,356
2708EC	Custodian	0	18,538	0	20,850	0	20,850
3302ED	Vendor	0	31,742	0	36,733	0	36,733
3320ED	Animal Keeper	0	28,855	0	28,254	0	28,254
9993ZA	Salary Savings	0	(55,982)	0	(55,982)	0	(55,982)
TOTAL SUBOBJECT:		0	44,854	0	54,229	0	54,229
TOTAL OBJECT:		0	44,854	0	54,229	0	54,229
TOTAL PROJ/WP:		75	2,537,174	76	2,763,674	76	2,767,489
TOTAL INDEX:		75	2,537,174	76	2,763,674	76	2,767,489
TOTAL FUND:		75	2,537,174	76	2,763,674	76	2,767,489
TOTAL ACTIVITY:		75	2,537,174	76	2,763,674	76	2,767,489
TOTAL SECTION:		75	2,537,174	76	2,763,674	76	2,767,489

REPORT TOTALS:

932 30,830,799 967 34,552,002 967 34,556,812



## EQUIPMENT DETAIL REPORT

SECTION: 420800 200  
 ACTIVITY: 00 200  
 FUND: 02229 REVENUE FUND

POS/EQ# TITLE

\*\* CY ORIGINAL \*\*  
 # APPRVD \$ # MAYOR BUDGET \$ # BOARD APPRVD \$

INDEX:	621839	200 - SF				
PROJ/MP:	00000	REFORESTATION				
OBJECT:	220	EQUIPMENT PURCHASE				
SUBOBJECT:	2200	EQUIPMENT PURCHASE				
427172	Radio(2-way)		0	0	30	24,600
427182	Forklift		0	0	1	14,000
42719Y	Dolly(pallet)		0	0	2	1,000
42720Y	Truck(cushman turf)		0	0	2	8,650
99992Y	EQUIPMENT NOT DETAILED		0	49,800	0	0
TOTAL SUBOBJECT:			0	49,800	35	48,250
TOTAL OBJECT:			0	49,800	35	48,250
TOTAL PROJ/MP:			0	49,800	35	48,250
TOTAL INDEX:			0	49,800	35	48,250
TOTAL FUND:			0	49,800	35	48,250
TOTAL ACTIVITY:			0	49,800	35	48,250
TOTAL SECTION:			0	49,800	35	48,250
REPORT TOTALS:			0	689,555	206	712,790





# EXHIBIT D

## 1988 Zoo Admission Fees

<u>ZOO</u>	<u>ADULT</u>	<u>CHILDREN</u>
Phoenix	\$5.00	2.00
Tucson-Desert Museum	6.00	1.00
Colorado Springs	5.00	2.50
Denver	4.00	2.00
Miami	6.00	3.00
Tampa Busch Gardens	19.95	3 & under free
Chicago Brookfield	2.25	.75
Indianapolis	7.00	4.00
Louisville	3.25	1.50
New Orleans	5.50	2.75
Baltimore	4.00	2.00
National Aquarium	6.75	4.75
New England Aquarium	6.00	3.50
Detroit	5.00	2.50
Minnesota	4.00	1.50
Kansas City	3.00	Under 12 free
Omaha	4.50	2.25
Albuquerque	4.00	2.50
Buffalo	6.00 family	1.00 (11 to 16)
New York	3.75	1.50
North Carolina	3.00	1.00
Cincinnati	4.75	2.00
Cleveland	3.00	1.50
Columbus	3.75	1.50
Oklahoma City	3.25	1.65
Portland	2.50	1.25
Philadelphia	4.50	3.50
Pittsburgh	3.00	1.00
South Carolina	3.25	1.25
Knoxville	4.50	2.75
Brownville	3.75	1.75
Salt Lake City	4.00	2.00
Seattle	3.25	1.50



## ZOO ADMISSIONS

Sept. 1987

## FRESNO ZOO

ADULT	\$3.00
CHILDREN	4 - 14 \$1.00
GROUP(25)	\$2.00 \$1.00 Children
SENIORS	2.00 62 and over

## LOS ANGELES

ADULTS	4.50
CHILDREN	2 - 12 \$2.00
GROUP	SCHOOL AND REC AND PARK
SENIORS	3.50 65 and over

## MONTEREY AQUARIUM

ADULT	7.00
CHILDREN	3 - 12 \$3.00
GROUPS (20 or more)	
SENIORS AND	
STUDENTS	5.00

## LIVING DESERT

ADULTS	3.50
CHILDREN	3 - 15 \$1.00
GROUPS	Available
SENIORS	3.50
SENIORS	2.50 Tues.

## SACRAMENTO ZOO

ADULTS	2.50
CHILDREN	3 - 12 \$.50
GROUPS(25 or more)	\$1.00 adults .50 children
SENIORS	65 and over .50

## SAN DIEGO WILD ANIMAL PARK

ADULT	12.95
CHILDREN	6.20
GROUPS	15 or more
SENIORS	10.95

## SAN DIEGO ZOO

ADULT	8.50
CHILDREN	2.50 3 through 15
GROUP (15 or more)	10% discount
SENIORS	9.50 which includes bus ride and Childrens Zoo.

No discount on General Admission for Seniors.



SEA WORLD

ADULT	12 and over	\$17.95
CHILDREN	3 thru 11	\$11.95
GROUP 15 or more		\$16.95
SENIORS	55 and over	\$12.95

MARINE WORLD/AFRICA

ADULT	14.95
CHILDRENE	9.95 4 thru 12
GROUPS	Available
SENIORS	9.95

SAN JOSE

ADULT	2.00	-
CHILDREN	1.50	2 thru 13
GROUP (12 or more)	.65 adult	.25 children
SENIORS	1.50	
	1.25	Gr. rate

SANTA BARBARA

ADULT	4.00
CHILDREN	2 thru 12 \$2.00
GROUPS	Monday thru Friday
SENIOR	2.00





9 November 1989

EXHIBIT E

WILDLIFE LABORATORIES Investigational Non-animal Drugs	\$ 250.00
LUCKY PHARMACY Pharmaceutical Supplies & Vitamins	\$5,000.00
VETERINARY DIAGNOSTIC LAB, O.S.U. Diagnostic Testing	\$3,000.00
LIQUID CARBONIC Medical Oxygen	\$ 600.00
CENTRAL CITY MEDICAL Veterinary Supplies	\$20,000.00
SAN FRANCISCO GENERAL HOSPITAL Pharmaceuticals	\$5,000.00
VETERINARY REFERENCE LABORATORIES Diagnostics	\$25,000.00
INTEGRATED ENVIRONMENTAL SYSTEMS Infectious Waste Boxes & Liners	\$ 77.00
REMCO Steam Cleaner Maintenance	\$ 156.15
CARDIOPET Transtelephonic	\$3,000.00
O.H. KRUSE MILLING Medicated Herbivore/Marsupial Pellets	\$4,000.00
RADIATION DETECTION COMPANY Film Badge Monitoring	\$ 250.00
DENNIS X-RAY Radiology Processor Chemicals & Maintenance	\$2,100.00
CLARENCE E. PEMENTAL Carcass Removal and Disposal	\$ 500.00
SYNTHESES ASIF-Bone Plates and Screws	\$ 400.00
RAPTOR CENTER UNIV. OF MINNESOTA Elisa Testing	\$4,500.00
JAMES ROUSCH, D.V.M. Surgical Consultancy	\$3,000.00
WEIGH-TRONIX Digital Scale Repair	\$ 375.00



EXHIBIT F

INTER-DEPARTMENTAL MEMORANDUM  
OFFICE OF THE RECREATION AND PARK DEPARTMENT

11/10/89

TO Phil Arnold

FROM Joe Reese

RE. O.T. Use 6/1/89 - 11/1/89

By Classification:

3320 = 1029 Hrs	- Animal Keeper
3321 = 221	- L. Keeper
3322 = 0	Asst. Head Keeper
3324 = 4	Head Keeper
7355 = 10	Truck Driver
7347 = 0	Plumber
7395 = 0	Iron Worker
2708 = 40	Custodian
2490 = 38	Vet Tech

This does not include holiday pay.



ZOO ADVISORY COMMITTEE

Report of the Subcommittee on  
Government Structure and Administration

January 25, 1990





### PURPOSE

The Subcommittee on Government Structure and Administration of the Zoo Advisory Committee was formed to:

- . Review the current status of the San Francisco Zoo within the existing municipal government structure.
- . Analyze the pros and cons of maintaining the zoo as a part of the Recreation and Parks Department.
- . Investigate alternatives, both public and private, to the status quo of the zoo's administration and position within the local government structure.
- . Examine the impact of other entities on the zoo's operation.



FINDINGS

The following are this Subcommittee's findings:

1. Currently, no other municipal government department or agency is better suited as administrator for a municipally-run San Francisco Zoo than the Recreation and Parks Department.

After investigating alternative departments or agencies within the existing municipal structure to assume responsibility for the San Francisco Zoo, the Subcommittee determined that the Recreation and Park Department is presently, if only by default, the department best suited to oversee the operation of a municipally-run zoo.

Other government departments considered as possible alternatives included the Chief Administrative Officer, the Public Works Department and the Public Utilities Commission. However, it was felt that both the size and scope of these other municipal departments made them less feasible as realistic alternatives for supervising the zoo's operation.

The Subcommittee also considered the possibility of a separate Zoo Department and Commission being established. However, it was believed that the costs of providing the necessary support services such as finance, administration, and maintenance for a separate Zoo Department would be more than what it was assumed the City would be willing to fund. Currently the zoo benefits from the support services already existing within the Recreation and Parks Department.

The Subcommittee also determined that conversion of the San Francisco Zoo to a private operation or as a privately-managed, municipally-owned zoo was not realistic at this time. Although the San Francisco Zoological Society had expressed interest in the past in operating the zoo, the system and structure under which the zoo is currently operating would make the transition difficult. Also, no private entity, including the San Francisco Zoological Society, is currently expressing an interest in assuming management responsibility of the San Francisco Zoo.

2. It is perceived that recreational and educational aspects of the zoo's operation take precedence over animal care in municipal decision making.

The Subcommittee has determined that the government officials within the Recreation and Parks Department and Commission, as well as those at City Hall, have not provided the necessary support for the animal care needs at the zoo. It is believed that the needs of the animals at the zoo have been neglected and more concern has



FINDINGS continued

been given to the zoo's recreational value. However, it is felt that both recreational and educational purposes of the zoo would be better met if the animal care concerns are given priority attention.

3. Within the Recreation and Parks Department structure, the zoo does not receive enough specialized attention to best meet its needs.

Even though the Recreation and Parks Department presently seems to be the municipal agency best suited to oversee the zoo's operation, the Subcommittee has determined that the unique needs of the zoo require more concentrated attention than what the Recreation and Parks Commission currently provides it. The Subcommittee felt that it would be in the best interest of the zoo and the community to have a permanent zoo committee in place within the Recreation and Parks Department structure to formulate policy on zoo animal care matters and make recommendations to the Recreation and Parks Commission on other zoo matters.

This permanent Zoo Committee should not have Recreation and Parks Commissioners nor San Francisco Zoo employees as members although the zoo director or a designated representative should be required to attend meetings of this Zoo Committee to present ideas and/or respond to concerns.

4. The municipal management and administration of the San Francisco Zoo has been deficient in recent years so that there is public concern that the San Francisco Zoological Society has assumed power and control in certain zoo decisions inappropriate to its support role at the zoo.

While the Subcommittee acknowledges the many fine contributions of the San Francisco Zoological Society to the zoo, concern was expressed in what it perceived as the Zoological Society's increased involvement and influence in the day-to-day management and administration of the zoo. It was believed that the San Francisco Zoological Society could best assist this municipal zoo through its fundraising, development, education and public relations efforts which are based on the goals and objectives established by the zoo's municipal managers.





CONCLUSION

Based on this Subcommittee's findings, it has been concluded that the San Francisco Zoo suffers from insufficient support from the municipal government, especially as it regards the welfare and needs of the animals at the zoo.

RECOMMENDATIONS

This Subcommittee makes the following recommendations:

1. The Mayor, who is ultimately responsible for San Francisco's municipal zoo, get personally and directly involved in the San Francisco Zoo's situation, acting as a mediator to work with the various groups who care about the animals and the zoo, so that an ambitious, overall, unified plan of action addressing the deficiencies in the system be developed and implemented.
2. The City and County of San Francisco and its public servants make a formal resolution acknowledging the proper and humane care of the animals at the San Francisco Zoo as the number one priority of the zoo's operation.
3. The San Francisco Zoo remain a municipal function under the Recreation and Parks Department and be given the necessary administrative and financial support to serve the needs of the animals in its care.
4. The Board of Supervisors enact the necessary legislation which will create a new permanent Zoo Committee composed of citizens with expertise, knowledge and interest in zoo matters, exclusive of Recreation and Parks Commissioners and zoo employees, to make policy decisions on animal care matters at the San Francisco Zoo as well as recommendations on other zoo matters to the Recreation and Parks Commission.
5. The Joint Zoo Committee be dissolved.
6. The San Francisco Zoological Society's role in the zoo administration be only that of auxiliary support to the municipal managers in the areas of fundraising, development, education and public relations.



THE VETERINARY CARE SUB-COMMITTEE REPORT

2/8/90

ZOO ADVISORY COMMITTEE

VETERINARIAN CARE SUB-COMMITTEE MEMBERS

Dr. Jorge Garcia DVM, Convenor

Phil Arnold, Acting Zoo Director (2/89 to 6/89)

Susanne Barthell

Kimberly Karr/Warner, (2/89 to 7/89)

Dolores Donovan

Sandra Keller

Joann McGarry, (8/89 to 1/90)

Justice William Newsom



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## VETERINARY CARE SUB-COMMITTEE REPORT

### INTRODUCTION

The Veterinary Care Sub-Committee of the Zoo Advisory Committee has conducted a lengthy and comprehensive study of the current veterinary care program at the San Francisco Zoo. Committee members conducted weeks of interviews, both oral and written. In addition to interviewing the Veterinarian, Curators, and Senior keepers there was on-going contact and consultation with the Acting Zoo Director. We conducted weekly open-forum meetings, on zoo grounds, for three months, inviting all who wished to speak to do so. We interviewed both of the full-time Animal Health Technicians, the majority of Zoo Keepers, and docents and volunteers with knowledge of medical practices here. Also interviewed were other veterinarians with expertise with exotic animals, and an expert elephant trainer hired by the Recreation and Park Department. The Committee members spent 1,000 hours reviewing and deciphering hundreds of pages of medical and curatorial records.

It should be noted that the Veterinarian, the Curators, the Acting Zoo Director, Senior Keepers and one volunteer supported and defended the existing, as well as past, medical policies and practices of the Zoo while all others interviewed were moderately to severely critical of past and existing medical policies and practices.

### PURPOSE

The goal of the Sub-Committee was to obtain a thorough and comprehensive understanding of every aspect of veterinarian care at the Zoo. Only with this kind of thoroughness did the Committee feel it would be possible to identify the functional and dysfunctional aspects of the programs and become well-enough versed with its myriad facets to make realistic and practical recommendations for its improvement.



## CURRENT ZOOLOGICAL VETERINARY STANDARDS

Under the Animal Welfare Act of 1970 all zoological parks and aquariums are required to have certain minimum standards of medical care. The U.S. Dept. of Agriculture is the enforcement agency.

Most veterinary services are categorized as either preventive medicine or acute care.

1. PREVENTIVE MEDICINE PROGRAM (The most significant investment of time which can be made in a Zoo medical program" Operating Procedures For Veterinary Medical Services by Phillip T. Robinson, DVM, 1982)

Components of this program include a total animal health management program to meet their physical, psychological, social, nutritional, and medical requirements. (Merck Manual, 1986)

Specifically this should include "long-range programs for parasite control, vaccination against infectious disease, TB testing, and dental prophylaxis among others. In addition, staff reviews of the adequacy of diets, husbandry and housing techniques should be made and corrections implemented as necessary." Operating Procedures For Veterinary Medical Services by Phillip T. Robinson, DVM, 1982)

### 2. ACUTE CARE PROGRAM

"Includes diagnosis, treatment and surgery for daily disease problems and health emergencies in the collection. This function must be coupled with "daily rounds" in the animal collection to discuss the status of animal groups." (Ibid)

The veterinarian should review and respond to daily keeper reports. The veterinarian should educate zoo staff to detect premonitory clinical signs, early detection of aberrant behavior, and food intake.

3. A standard policy of treating all sick animals regardless of monetary value should be in place. In addition to humane considerations, valuable experience is often gained from treating the most common species which is later applicable to an endangered one. (Ibid)

4. A standard practice of performing a gross necropsy of all animals which die in the zoo, including migratory and feral animals, combined with proper histopathologic reports is essential to a zoo health program.

5. On-going education insuring that the veterinarian stays abreast of newly acquired knowledge is an absolute necessity. There should also be on-going education for the hospital staff and zoo keepers.

6. Medical records containing all pertinent data should be maintained. Also annual reports of the health status of the zoo collection should be required.

This committee has found that the standards by which the present veterinarian conducts his practice do not conform to those which his own professional colleagues have set forth and in many instances with the Civil Service job code description under which he was hired.



## THE MEDICAL RECORD

The intent of the medical record is to provide for primary patient care. An updated record will also be useful for teaching purposes and data retrieval for clinical investigation. Accurate recordings in the record will provide a legally acceptable document. Therefore, the Medical Record Committee of the Veterinary Medical Teaching Hospital recommends the following minimum standards for hospitalized patients to provide adequate patient care:

- 1) Complete and accurate information on patient, client, referring veterinarian (i.e. animal's name, color, sex, species, breed, date of birth; client's name, address, and home/work telephone numbers; referring veterinarian's name, address and telephone number).
- 2) History & Physical (Data Base)
- 3) Master Problem List
- 4) Orders - signed & dated
- 5) Progress Notes & Plans - updated daily
- 8 6) Treatment & Medication given - signed & dated (drug, dosage, and route of administration to be identified)
- 7) Minimal physiological measurements (T.P.R., observation of appetite and elimination)
- 8) All reports of diagnostic procedures to be included
- 9) Discharge Instructions to be completed before animal is released
- 10) Forms to be kept in a consistent order in the metal ward folder

(•• applies also to outpatient cases)

The completed medical record which will be used for retrieval should provide for continuing care for the patient in that the record should be adequately documented to allow a clinician unfamiliar with the case to take charge. It should also provide accurate, retrievable information for clinical investigation. Therefore, the following should be provided:

- 1) An informative case summary or outpatient sheet completed by the clinician
- 2) The Medical Record Department will be responsible for assembling the discharge medical record in a consistent order, securing all outstanding diagnostic procedure reports and correspondence, returning the record to the clinician for approval and signature, and for final coding and data entry into the retrieval system.





APPOINTMENT DATE:

INVOICE NO.

7515 K

(REFERRING VETERINARIAN, DIRECTIONS, ETC.)

## DATA BASE

## HISTORY

- 1 (CC) CHIEF COMPLAINT
- 2 (PH) HISTORY OF PRESENT ILLNESS
- 3 (PH) PAST HISTORY
  - A. MEDICAL
  - B. IMMUNIZATION
  - C. SURGICAL
  - D. TRAUMA
- 4 (EH) ENVIRONMENTAL HISTORY
5. DIET
6. (GS) SYSTEM REVIEW
  - A. GENERAL
  - B. INTEGUMENTARY
  - C. (EENT) EYES, EARS, NOSE, THROAT
  - D. MUSCULO-SKELETAL
  - E. CARDIOVASCULAR
  - F. RESPIRATORY
  - G. (GI) GASTRO-INTESTINAL
  - H. GENITO-URINARY
  - I. NERVOUS SYSTEM

Weight \_\_\_\_\_ Temp. \_\_\_\_\_ Pulse \_\_\_\_\_ Resp. \_\_\_\_\_

## PHYSICAL

## EXAMINATION

1. General Appearance
- Integumentary
3. Eyes, Ears, Nose, Throat
4. Musculo-skeletal
5. Cardio-Vascular
6. Respiratory
7. Gastro-Intestinal
8. Genito-urinary
9. Nervous System
10. Lymph Nodes
11. \_\_\_\_\_

## TREATMENT

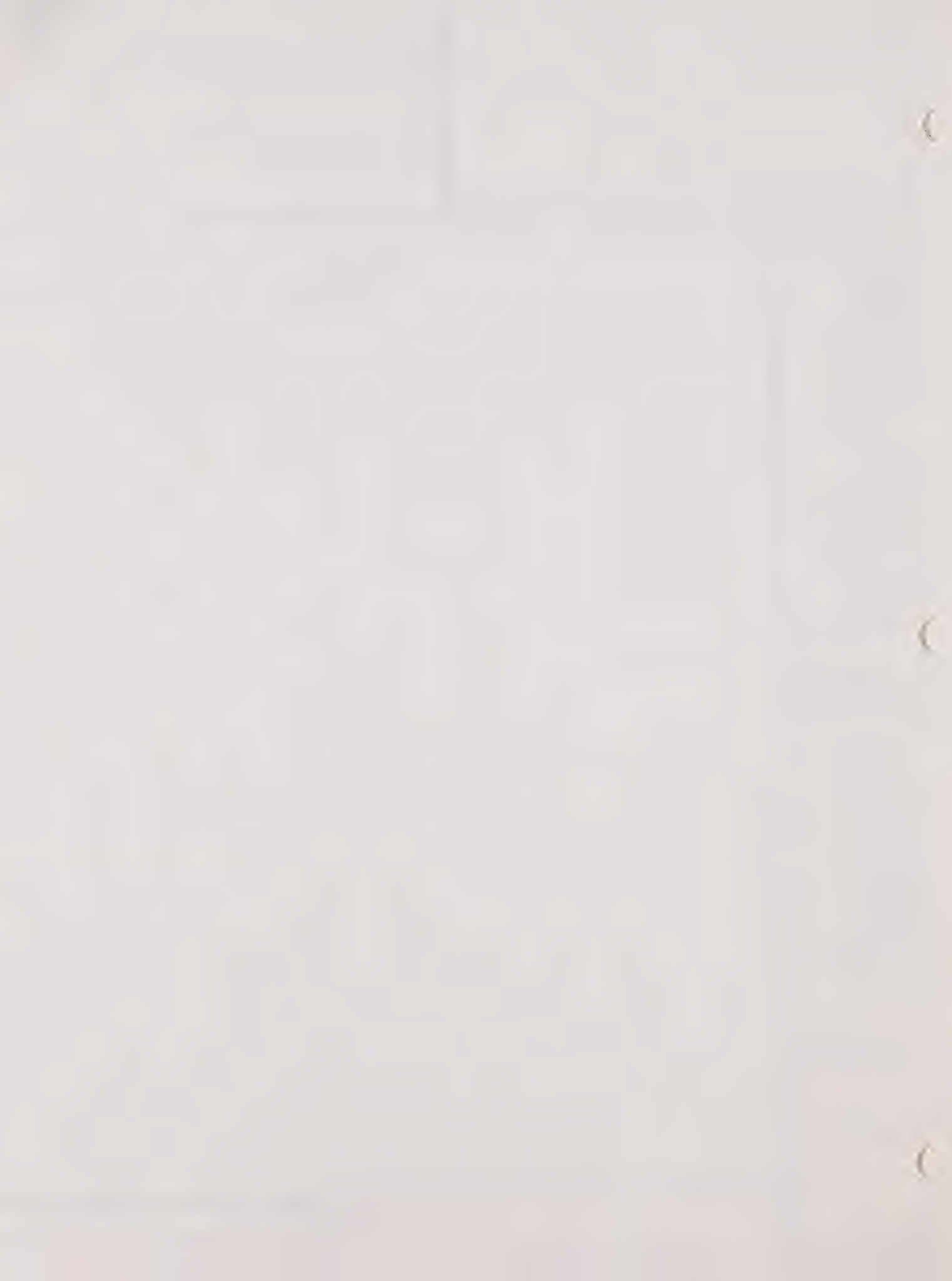
## MEDICATION

SIGNED \_\_\_\_\_ /

(STUDENT)

DATE

SIGNED \_\_\_\_\_ /



## BACKGROUND

The Veterinary Care program has repeatedly come under scrutiny in the past decade. Shortly after the current veterinarian arrived in early 1981, his medical practices were severely criticized when he refused to medically examine and TB test two juvenile orangutans, Sydney and Samara, despite the fact that the Chinese Consulate had asked that these procedures occur prior to their accepting these animals into their country as a gift from Mayor Feinstein. Furthermore, the Consulate stated that they had initially been told by the veterinarian that these procedures had been conducted, when in fact, they later learned they had not. Zoo Keepers who voiced concerns about the poor health of these animals were ignored and the animals were shipped to China. Within a year the young male, Sydney, died

The 1982 death of a Polar Bear, who was alive and well at 10a.m. and dead at 11a.m., who was not given a full necropsy, and the only explanation forthcoming was "Polar Bear, Sudden Death Syndrome" added to the concerns that the Zoo's animals may not be getting the best possible care.

In 1983 the veterinarian supported the decision to lock the Gorillas outside on a daily basis, despite it being one of the coldest winters in years, and the Gorillas were suffering from colds. Missy, the Zoo's breeding female, became ill and died. The veterinarian stated categorically that she did not have pneumonia, but the pathology reports states that she did indeed have pneumonia at the time of her death.

The 1984 deaths of Colobus monkeys, Musk Ox, and others kept attention focused on the veterinary care program.

The April 1985 opening of the Primate Discovery Center, and the nearly immediate beginning of deaths of Bushbabies in May, once again brought the medical care program under question.

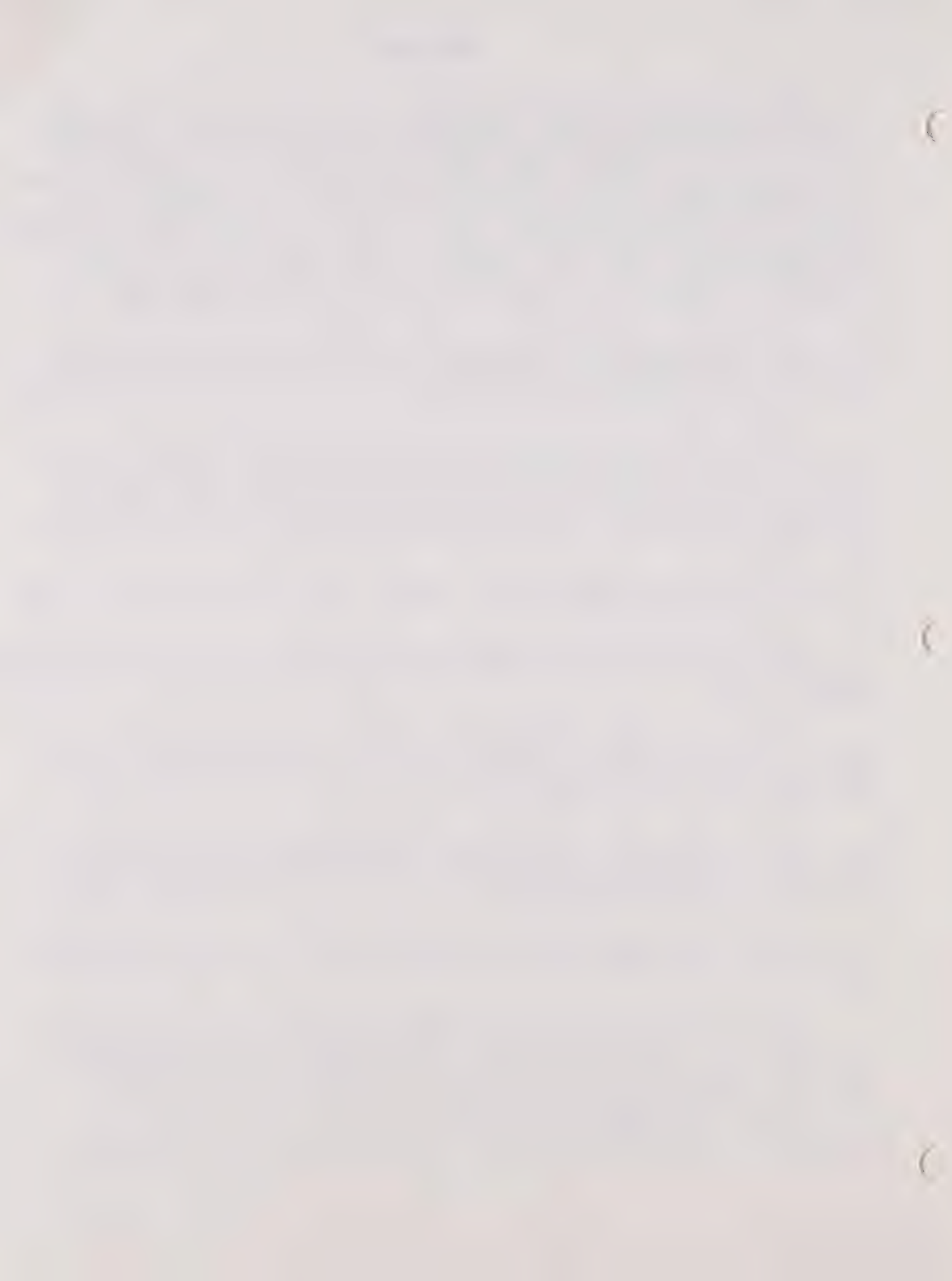
The mid-1980's brought recognition to the Zoo's veterinary program for dental work on the Zoo's big cats. Both "Buster" the jaguar, and a snow leopard received gold crowns for their canine teeth. These procedures were performed by outside dentists brought in by the veterinarian.

The 1986 deaths of six Colobus monkeys, followed by denials by the veterinarian that they died of anything transmittable to the Zoo Keepers, and the subsequent illnesses of the Zoo Keepers, virtually destroyed what little confidence remained in the Zoo's veterinary care program.

From April 1986 to March 1987 131 animals died in the Zoo. 17.5% of the deaths were without a known cause, raising questions as to why so many animals die and no one knows why.

1987 also brought recognition to the veterinary program for its laser surgery on the foot of one of the Zoo's Asian elephants and for a lithotripsy procedure on "Beaker", one of the Zoo's penguins, to remove kidney stones. It should be noted that these procedures were performed by consultants brought in by the veterinarian and not by himself personally.

The 1988 deaths of Musk Ox and Colobus Monkeys once again put the Zoo in the public eye. The Colobus were dying of "unknown causes" and the veterinarian





was suggesting a possible "Zoo Sabatouer".

In 1989 KPIX aired a six part program regarding the Zoo and including concerns about the well-being of its animals inhabitants. 1989 also produced a report from a Peer Review which stated that the Veterinarian was competent and the animal care adequate. This was promptly responded to by the Zoological Society which stated that "adequate" was "not good enough". While the Recreation and Park Department defended the Veterinarian, the Zoological Society, echoing the sentiments of others concerned for the animals at the Zoo, suggested the Veterinarian resign. Furthermore the Peer Review itself became the focus of controversy because they spent only 2½ days here, had never conducted such a review before, had no official standing, and while originally intended to focus on the vet care program, in fact had their scope extended to include other areas of Zoo operations by the Acting Zoo Director.

During 1989 the veterinarian has also received credit for work with the Zoo's penguin collection during an outbreak of aspergillosis. However, we have received repeated testimony that much of this successful work was the result of frequent suggestions from dedicated and hardworking Zoo Keepers.

This Veterinarian also cares for City animals at other sites. How many animals, how many off-site locations, what remuneration and how much time is involved has not been forthcoming despite our repeated inquiries into this matter. We feel strongly that these questions must be answered as they impact on the time he is available for animal care at the Zoo and it may raise a conflict of interest issue --particularly in the case of the care given at the Doelger Estate in Sonoma for which we been told that he receives considerable additional money. It should be noted that during this year, under the current Acting Director, the Veterinarian has been present at the Zoo a great deal more of the time

Under the current job description the veterinarian is required to perform many medical and educational duties. We have found that historically his fulfillment of these duties has been partial and inconsistent. He is required to maintain exhibited animals in good health. We have concluded that he does not. He is required to perform or supervise laboratory tests on blood and tissues. We are told he does not. He is required to conduct continuing intensive studies in animal hygiene. We found no indication that he does so. He is required to maintain appropriate records. He does not. He is required to develop standards of care and treatment of rare and unusual specimens. We found no evidence of his having done so. He is required to perform autopsies. We found that he only occasionally performs autopsies, and some animals are cremated without any autopsy. He is required to conduct classes for staff and other personnel in zoo-related subjects such as animal feeding, disease, sanitation, reproduction, handling and restraint. Historically he has not. Recently, under the Acting Director, a program inviting outside experts to the Zoo to discuss zoonotic diseases is being planned.

It should be noted that throughout our investigation we were repeatedly made aware of the fact that a state of fear and apprehension exists at the Zoo. Many who spoke with us expressed concern that once the Zoo Advisory Committee disbanded a time of retribution for those who spoke with us would begin. Past incidents of harassment of those who spoke to the press or were in some way critical of Zoo methods, were listed as the cause for these fears. It is our hope that the Recreation and Park Department, under whose auspices the Zoo arrived at this sad state of affairs, seek and implement the steps necessary to allay these fears and return the Zoo to a status more befitting the City of Saint Francis.

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## OVERVIEW

The Committee finds a mixed picture of veterinary care at the Zoo.

The Animal Health Technicians (AHTs) are believed by the vast majority of persons interviewed to be the strongest aspect of the medical program. It was repeatedly reported to us that it is their dedication and regard for ailing animals that most often makes the difference between their recovery or death. Our findings concur that the AHTs are doing a dedicated and excellent job within the limits allowed by the current Veterinarian. They would welcome opportunities to upgrade their skill, particularly in the areas of laboratory and medical procedures. If these technicians were used for duties more commensurate with their skills, the results would be better care for the animals and reduced costs to the City.

However, confidence in the competency and commitment of the Veterinarian is believed to be at an all-time low. During the course of our investigation the skills and dedication of this Veterinarian were continually called into question by many of those who work most closely with him. Committee members personally witnessed the deterioration and deaths of animals under his care.

The Veterinarian is responsible for all medical care at the Zoo. This position calls for leadership in the prevention, education and treatment program for the Zoo's approximately 350 species. According to the Civil Service job description he "provides guidance to zoo personnel in animal hygiene, nutrition, and breeding" and "requires ability to instruct and supervise subordinates...and maintain harmonious relationships with individuals and groups dedicated to the welfare of exhibited animals."

Regarding prevention: We found no successful protocols to cure or prevent the constantly recurring zoonotic diseases in the primates. There are no protocols for animal handling during medical procedures. In light of the near death of an AHT in October of 1988, during an elephant medical procedure this is particularly unpardonable.

With respect to education: There is no guide for the education of his own staff or keepers and no in-service program for staff. Many techniques and skills which are part of a veterinarian's education would be useful to his AHTs, yet the current veterinarian keeps such information to himself and does not impart it to others.

With respect to treatment: There have been questionable deaths of many animals (baby llama, female mandrill, baby chimpanzee "Mollie" etc.) and the apparent negligence of others (pregnant Serval, "Tyline" the Cheetah, "Niska" the Timber Wolf, "Tequila" the Tapir, the Capybara, "Sprite", the Childrens Zoo goat) who are left with minimal or no diagnoses or treatment to die or to reach a point of no possible recovery before significant efforts are made on their behalf. There is inconsistency of treatment. One animal with a medical problem will receive long term care, (Siberian Tiger, "TimiJean"), before euthanasia, another (Snow Leopard, Dersu) will be promptly euthanized, after a diagnosis of cancer, even though the animal was eating well, in no pain, playful and alert, and other cats



with cancer had received long-term treatment. Zoo Keepers felt this Leopard merited living until he was clearly in a state of painful decline. It is a commonly held belief among Zoo Keepers that the Veterinarian and the Curator (Mammals) expect that animals which get sick in a zoo do not recover. In support of this view, this Committee was frequently told by the Veterinarian--when he was questioned about sick animals--"poor prognosis" "poor prognosis". (Perhaps his assumption of poor prognosis is what prevents him from administering prompt and zealous diagnosis and treatment for many sick/injured animals.)

An aversion to communicating either orally or in writing with others, combined with his terse arrogance when communication becomes unavoidable, has created adversarial tensions among staff which severely handicap care and prevents the running of a functional medical program.

While not all deaths in a zoo can or should be directly attributable to the veterinarian, a high death rate must be looked into--examining areas for which the veterinarian is directly or ultimately responsible. Although no national standards yet exist for an "acceptable" rate of deaths in zoo collections, the San Francisco Zoo's deaths of 396 mammals and 201 birds for a total of 597 mammal and birds deaths over the past five years, out of a collection of roughly 1,000 animals, represents over a 50% loss over the past five years and warrants some explanation.

According to the Zoo's monthly Animal Data Sheets (compiled by the Veterinarian and the Curator of Mammals) the deaths of mammals and birds for the past five years are as follows:

	MAMMALS	BIRDS		MAMMALS	BIRDS
1989...	66	62	1986...	114	12
1988...	65	53	1985...	63	42
1987...	88	32			

In the Primate Discovery Center alone, over the 5 years of its existence, more than 55 monkeys have died. All the Cheetahs (3), a highly endangered species, have died. ( Perhaps a zoo whose preservation of an endangered species results in 100% mortality should voluntarily withdraw from exhibiting such species.) Tyline, the Zoo's last cheetah, died in October of 1988, after having been removed from the Zoo's hospital while in a critical condition, and put into a unheated, outdoor, concrete exhibit, despite the fact that indoor heated caging was available. Tyline's weakened condition and trembling prompted members of the public to complain to Zoo management, but it was only after management witnessed a concerned individual documenting her condition that she was returned to the hospital, where she died within 36 hours.

The Zoo Hospital has adequate space and good equipment for most of the Zoo's medical needs, but there are specific areas in need of improvement (see Item XII).





## PRIMARY RECOMMENDATIONS

The following are the Sub-Committee's recommendations essential to improving conditions at the Zoo. Other related recommendations will be found following the specific areas of concern in the body of this report.

1. The City should take immediate steps to replace the current Veterinarian because of his poor medical practices, failure to maintain proper medical records, lack of professional conduct and repeated multiple failures to fulfill his job description.
2. While the current Veterinarian remains at the Zoo, he should be required to fulfill fully his job description and current State minimum standards of practice and failure to comply be dealt with appropriately, (i.e.: reprimand and documentation by the Zoo Director) including termination if necessary.
3. The job of Zoo Veterinarian should be reclassified to an exempt position.
4. City should not hire a second Veterinarian (see Addendum A). This committee feels very strongly that the failure of the Recreation and Park Department to deal effectively with and correct the veterinarian animal care problems at the Zoo, historically and currently, is no legitimate rationale or justification for adding a second veterinarian (at \$73,000+ per year), for whom they may also have no effective means of dealing with if it proves necessary. Additionally, the size of the Zoo's animal collection, of less than 1,000 specimens, does not warrant a second veterinarian. Finally the Recreation and Park Department, rather than adding a second story to a house with a notoriously shaky foundation, might consider putting it in order first.
5. City should hire a part-time Veterinarian to fill the vacancy during the 150 days a year when the full-time veterinarian is not working.
6. The Zoo's veterinary care program should be upgraded immediately to include a trained emergency team to deal with animal emergencies which occur when no veterinarian is present. This team should be trained to assist the AHT's until the veterinarian arrives or the emergency abates. The team could consist of the Officer of the Day, lead keepers, and/or curatorial staff.
7. Department of Public Health has recommended, in response to a 1989 Cal OSHA study, an assistant Industrial Hygienist, the Recreation and Park Department has requested it and we recommend that it be funded.
8. In order to meet a professional level of accountability in the medical care program, the Zoo Director, with competent consultation, should develop a serviceable handwritten medical record system immediately. Entries should be dated and signed. Additionally, the Zoo should replace its current complicated and non-compatible SNOVET program with one which is capable of interaction with other programs and zoos (such as MEDARKS). (Efforts could also be made to reconstruct current inadequate records to aid in the future care of the still-living collection.)





9. At minimum a part-time qualified records keeper should be added; volunteer if available, but preferably a new paid position.

10. Hospital needs additional facilities for the treatment and care of the Zoo's larger animals, at minimum for the Great Apes.

Adjacent to the Zoo hospital is a large hay barn which could be partially converted to accommodate holding for larger hooved stock, thus addressing this serious need.

11. City should require the Zoo to extend its working relationships with community resources to include U.C. Davis, U.C. Berkeley, San Francisco State University and local prominent scientists, and make full and frequent use of what they have to offer the Zoo in the areas of medical and animal care, as well as augmentation of services both in daily care and research areas.

12. To assure conscientious follow-up to the recommendations of this Sub-Committee and to the Zoo Advisory Committee's recommendations as a whole, we strongly urge the formation of an oversight committee which would work closely, meeting frequently (twice monthly) with the Zoo Director, but ultimately responsible to the Board of Supervisors. This Zoo oversight committee would report to the full Board of Supervisors at regular (quarterly) intervals on the progress made by the Zoo staff toward implementing the Board-approved recommendations of the Zoo Advisory Committee.



## FINDINGS

We have divided our evaluations into 13 areas of concern. Our findings document the Veterinary care program in all areas of his current practice at the Zoo. Specific case materials exist in our files to substantiate the statements set forth in the areas cited in the Findings below.

### I. EXOTIC VETERINARY CARE PROTOCOLS

No written protocols exist at this Zoo nor are there agreed-upon procedures understood by all concerned staff for any of the following critical management areas:

Animal Defensive Behaviors

Animal Medication Techniques

Recognizing Crisis Symptomatology (e.g. labor, drug side-effects, when first aid is required, etc.)

Darting of Animals for Capture or Medical Procedures (There is a training procedure)

### ADDITIONAL RECOMMENDATIONS:

(For Primary Recommendations see p. 7)

1. Written protocols, accompanied by training where necessary, should be developed immediately, distributed, and implemented.
2. Staff accountability for these duties should be established by the Zoo Director and followed up weekly until the Director is satisfied that all staff know and can follow these protocols. A 3-month deadline is suggested.



## II. MEDICAL CARE

### A. Medical Practices

Lack of Agressive Treatment (preventive medicine)

Failure to inform hospital and keeper staff of critical lab reports in a timely manner.

Failure to maintain accurate vital statistics

Use of anesthetic without appropriate support team, contributing to the death of animals. (In Oct. 1989 a family of 8 White Fronted Lemurs, an endangered species, were anesthetized without a proper support team or appropriate recovery cages. Two animals died, including the breeding female, two others had prolonged recovery response. As this was not an emergency procedure there was no need to conduct it without proper staffing and caging.)

Neglect (Main Zoo, Children's Zoo, ARC)

Failure to diagnosis correctly and treat appropriately contributing to death of animal. (A pregnant female mandrill, whose medical record indicated as diabetic, was left in a coma in the hospital, with no attempt to administer insulin. After several hours in a coma, she died.)

Questionable euthanasia practice (A baby llama under treatment but undiagnosed, which warranted watching for the night (staff was willing to stay and monitor animal) was summarily euthanized at the end of the day, less than 12 hours after the onset of the problem.)

Prescribing Treatment Prior to any Examination

Lack of Standard "hands on" Physical Exams when appropriate

- a. Sick animals at hospital admission
- b. Animals to be shipped out of the Zoo.

Shipping of unhealthy animals out of the Zoo

### ADDITIONAL RECOMMENDATIONS:

(For Primary Recommendations see p. 7)

1. Current Veterinarian should be directed to improve immediately and significantly the quality of medical care he provides.
2. To aid in that task he should be required to attend as an observer at least one medical/surgical procedure a month at UC Davis until he is satisfied he can perform it successfully himself and demonstrates that by the successful outcome on a Zoo animal. He should be required to take refresher courses in diagnosis and non-surgical treatment to the same criteria.
3. All of the above should be monitored by the Oversight Committee.





## B. SLOW RESPONSE TIME

Days and even weeks may elapse from the day an Animal Keeper first notifies the Vet of a problem via the daily night report and the time that an animal is seen or treated.

There have been similar long lapses between the receipt of Veterinary Reference Laboratory (VRL) pathology reports identifying zoonotic diseases and the commencement of treatment and/or notification of the Zoo Keepers that animals they are working with have contagious or serious zoonotic diseases.

Months and even years have gone by between the identification of a serious exhibit problem which affects the health or well-being of an animal (despite feasible remedies offered by knowledgeable animal keepers) and implementation of a solution by Zoo management staff. The Veterinarian, under his job description is required to "provide professional advice and guidance on matters relating to animal enclosures".

### ADDITIONAL RECOMMENDATION:

(For Primary Recommendations see p. 7)

1. Current Veterinarian should be required to respond promptly and consistently to animal health issues, and be accountable to the Zoo Director at weekly staff meetings.

## C. HOOF STOCK

### LACKS PLAN FOR REGULAR HOOF TRIMMINGS

#### a. MUSK OX

These animals have been allowed to develop excessively overgrown hooves. Independent veterinarians viewing the condition have stated that correction would take up to two years of regular trimming, with no guarantee that complete correction could be obtained.

#### b. GIRAFFE

Chester, a young male giraffe, developed severely overgrown hooves over a period of 2 years without remedy. Failure by the veterinarian to address the situation in its early stages put the animal in a continual state of discomfort. Finally, after persistent complaints were made by Keepers and ZAC members the veterinarian used a laser to trim parts of the overgrown front hooves. However, since this partial remedy was applied so long after the problem was identified the animal may never fully regain normal walking abilities.

### ADDITIONAL RECOMMENDATIONS:

(For Primary Recommendations see p. 7)

1. Current Veterinarian should be required to implement a proper hoof maintenance program.
2. Chutes, similar to cattle chutes, should be constructed immediately to facilitate medical exams and hoof trimming for the Zoo's hoof stock. Once built Zoo management should be trained



in their proper and humane use. It should be noted that during the course of this Committee's review of the vet care program the veterinarian has repeatedly requested the Acting Zoo Director to supply him with these animal chutes.

### III. ANIMAL CAPTURE, RESTRAINT, AND HANDLING PROCEDURES

Preparatory meetings, prior to animal captures, with hospital and keeper staff are virtually non-existent and when conducted seldom followed.

Keepers who know their animals have often not been allowed to participate in capture/move procedure by the Veterinarian.

No written or stated contingency plans for unexpected or emergency occurrences exists.

#### ADDITIONAL RECOMMENDATIONS:

(For Primary Recommendations see p.7)

1. Current Veterinarian should develop a written protocol and training program for these procedures, to include a pre-planning meeting with all staff, (including keepers) to be involved in the procedure.

2. All animal moves, captures, and restraints to be conducted humanely, with maximum attention to minimizing stress for the animals.

### IV. DISTRIBUTION OF DRUGS

"All prescriptions dispensed to staff for delivery to zoo specimens should be properly packaged and identified. Instructions about the rate of administration, frequency, and duration of treatment must be concisely worded on the label. The medicine content of each prescription should be clearly marked." (Operating Procedures For Veterinary Medical Services, Phillip T. Robinson, M.S., D.V.M., 1982)

Current veterinarian dispenses medicines without identifying labels

Medicines often lack written instructions for their use/administration

Oral instructions for their use/administration at times not given

Medicines dispensed without information about expected/possible side effects

#### ADDITIONAL RECOMMENDATIONS:

(For Primary Recommendations see p. 7)

1. All drugs must have appropriate labels, instructions and information in conformance with State laws. Lapses from this basic routine should be reported to the Zoo Director who will take corrective steps.





## V. LACK OF CONSISTENCY AND TEAMWORK ON DAILY ROUNDS

Veterinarian does not conduct daily medical rounds

Little or no hospital staff discussion or plan of action before Rounds

AHTs not included on Rounds, except on erratic basis

Keeper in-put not solicited regularly and respectfully

### ADDITIONAL RECOMMENDATIONS:

(For Primary Recommendations see p. 7)

1. Implement daily Rounds which include prior discussion with hospital staff and include AHTs on the Rounds; and maximize Keeper input.

## VI. PROFESSIONAL CONDUCT

The current veterinarian has repeatedly demonstrated the following:

Lack of evidence for an acceptable standard of professional performance

His usual style of communication is rude, abrupt and intimidating.

He makes inflammatory statements such as "It's 'Open Season' on Zoo Keepers; refers to Children's Zoo animals as "junk animals" which "can be replaced"; refers to animals not included in Zoo 2000 as "dead meat", and has referred to an ailing Muntjac (small deer) as "just a fucking Muntjac"

He has repeatedly demonstrated lack of professionalism during capture procedures e.g. acting loud, swearing, being impatient when animal doesn't "go down" fast enough.

Has conducted reckless animal captures which led to staff injuries

Has flung a dead monkey over his shoulder and walked through Zoo

Poor staff relations \*

\*(Although this has been true historically, the Committee finds particularly reprehensible the animosity and harassment expressed toward the AHTs on his staff who choose to cooperate with this Committee.)

Has no consistent, effective, comprehensive communications (written/oral) with AHTs or Zoo Keepers.

Historically has had no regular hospital staff meetings

(Despite a City-mediated dispute in 1982 which directed the current Veterinarian to open up communications via regular staff meetings.)

Historically has maintained poor accessibility on and off grounds





Historically poor responsiveness to emergency calls when off grounds.

Has failed to establish consistent veterinarian back-up coverage resulting in extended animal suffering.

Veterinarian consistently parked his car inside Zoo Hospital, adjacent to animal holding areas, subjecting animals in confined space to toxic automobile exhaust fumes. This practice stopped only after the Acting Zoo Director, Mr. Arnold, requested that it cease.

ADDITIONAL RECOMMENDATIONS:

(For Primary Recommendations see p. 7)

1. The current Veterinarian should be prohibited from using abusive language and making threatening statements.

**VII. ZOONOTIC DISEASE**

The San Francisco Zoo has been the focus of much adverse publicity due to the diseases from which more than a dozen monkeys have died, and which were also transmitted to Zoo Keepers.

Job description for the Veterinarian requires that he is responsible for "maintaining exhibited animals in good health". The current Veterinarian has proven unable to prevent or arrest the spread of zoonotic diseases from one species to another, and has not been able to prevent or stop the spread of these diseases to Zoo Keepers. The Veterinarian has demonstrated a --

- a. Failure to diagnose in a timely manner
- b. Failure to share all lab reports documenting zoonotic diseases with AHT's and Keepers of diseased animals
- c. Failure to develop effective treatment or safety protocols to prevent the continual recurrence and spread of zoonotic diseases from species to species and transmission from animals to Zoo Keepers

AREAS OF HIGH INCIDENCE OF ZOONOTIC DISEASES

Triple Grotto -- Hystolitica / Great Apes

Primate Discovery Center -- Giardia, Hystolitica / Primates

Kangaroos -- Toxoplasmosis / Salmonella

Musk Oxen -- Salmonella

Gorillas -- Giardia (since 10/89, due to lack of proper prevention protocol for the spread from other primate exhibits.)

(See Primary Recommendation #7, p. 7)



## VIII. MEDICAL RECORDS

Extremely poorly maintained.

Having reviewed over 100 medical records, we could not find even one that includes ALL the pertinent data needed to determine accurately the medical history and the course of treatment of a given animal or bird. Most contain only a smattering of the information essential to a useful record.

The Committee found this to be an area of serious concern since accurate, specific records are essential to continuity of treatment from day to day, one staff member to another, and from Veterinarian to back-up or relief Veterinarian.

Records consistently do not include minimal information such as weight, age, temperature, respiration.

Clinical histories woefully inadequate, if they exist at all.

Lab reports have stated that a more definitive diagnosis would have been possible if clinical history had been given.

Records often do not indicate if animal is dead or alive.

Some records indicate long-term or repeated instances of ill health, but do not indicate an aggressive attempt or plan to cure the problem.

Necropsies, although required in the Veterinarian job description, are rarely performed by the Veterinarian and sometimes not performed at all (animal is cremated and no information collected).

Veterinarian seldom made entries into medical records prior to this committee bringing this matter to the attention of the Acting Zoo Director.

Veterinarian's entries are generally illegible.

Records do not indicate who performed tasks (no signatures or initials accompany entries.)

Veterinarian often calls in specialists in human medicine where it would be more beneficial and appropriate to consult veterinarian specialists. Attribution for their services are seldom noted in the medical record.

Veterinarian consistently performs duties of Animal Health Technicians, thus under-utilizing Animal Health Technicians.





If you want to know what was wrong with an animal and what was done by whom, when, the medical records are not the place to look; you must track down the Keepers and Animal Health Technicians in order to get a complete history of the animal and its course of treatment.

The Committee feels that such poor commitment to keeping adequate records reflects more than a lack of record-keeping skills which could be easily corrected by education but more seriously shows a disregard for the possible harm to the animals as a result of these poor records. When a relief vet is called in or any other staff member tries to use a record for information or continuity of treatment they are faced with only the merest facsimile of a medical history to rely on, thus handicapping attempts to provide necessary care.

#### ADDITIONAL RECOMMENDATIONS:

(For Primary Recommendations see p. 7)

1. The Committee strongly recommends that while the the current Veterinarian is on the job, he be required to learn modern medical record-keeping procedures and that these be legibly hand-written and not solely computerized. Historical tracking and accountability would be extremely difficult if not impossible with only the limitations of a computerized record. (The San Diego Zoo hospital is an exemplary model for record-keeping and with the aid of a part-time medical records secretary could be established here.)

We additionally recommend that this Veterinarian be tutored in the Zoo hospital so that what he learns can be immediately implemented and transmitted to his staff as well as minimize his time absent from the Zoo.

#### **IX. PREVENTIVE MEDICINE**

This area is an important aspect of maintaining health in captive animals (see p. 2) yet repeated testimony indicates that this area has been developed and maintained by the AHTs with little or no guidance or supervision by the current Veterinarian.

#### **X. EDUCATION AND STAFF TRAINING**

"...programs concerning husbandry, nutrition and veterinary procedures are useful exercises in keeper awareness of preventative medicine." Operating Procedures For Veterinary Medical Procedures, Phillip T. Robinson, M.S., D.V.M. 1982.

No consistent, comprehensive in-house medical care training programs for hospital staff or Zoo Keepers has been implemented by the current Veterinarian.

#### **XI. RESEARCH PRODUCED BY VETERINARIAN**

"Health problems in zoological collections require investigative projects. New techniques for treating many diseases in zoo animals often must be developed within the zoo veterinary profession at their constituent zoos." (Ibid.)

Current veterinarian minimally produced in this area.

Failure to make any significant contribution to Zoo body of knowledge despite opportunities which abound at a zoo of this size.





Frequent failure to use opportunities presented by the deaths of rare and exotic species to gain knowledge and expertise by not performing autopsies himself.

ADDITIONAL RECOMENDATIONS:

(For Primary Recommendations see p. 7)

1. Veterinarian be required to follow his job description by performing necropsies on all animals, recording the results and sharing the information with his staff and interested Zoo Keepers, pointing out premonitory signs which they can watch for in the same species in the future.

**XII. HOSPITAL FACILITY**

The Committee found the Hospital to be a strong point in the over-all program, adequate to care for the majority of the Zoo's animals.

The Hospital is under-utilized even for those procedures it is fully adequate to accomodate. The large lab could be used to conduct basic microbiology, parasitology, clinical pathology and hemotology work.

ADDITIONAL RECOMMENDATIONS:

(For primary recommendations see p. 7)

1. More extensive clinical and laboratory use of the hospital is strongly urged.
2. Hospital staff is not used to its potential. Opportunities for education to keep abreast of medical advancements should be implemented, both within the Hospital and at relevant conferences.

**XIII. USE OF REGIONAL RESOURCES**

The Bay Area is home to many unique and valuable resources which could be of considerable benefit to the Zoo at little or no cost to the City. The following is but a partial list of those resources which the current Veterinarian has failed to develop fully and use. Failure fully to utilize these resources adds considerably to the City's cost of maintaining the Zoo.

University of California, Berkeley  
University of California, Davis  
College of Marin  
Behavioral Enrichment Experts, State University, San Francisco  
Local DVM/MD Specialist in Zoonotic Disease

(See Primary Recommendation # 11, p. 7)



## Notes Re Recent Improvements in the Veterinary Program

It should be noted that improvements in the Vet's job performance over the past few months, all of which are standard practises for a conscientious veterinarian in any practise, must be directly attributable to the observations and monitoring by members of the Vet Care Sub-Committee on which the Acting Zoo Director sat for months and to whom Committee members continually lodged complaints and asked for action. These "new" practices include having the Veterinarian make medical rounds in the Zoo, sometimes talking with Keepers and his own AHT staff--neither of these on a daily basis--coming to work for a full day, carrying a beeper to be easily located when off grounds, keeping a daily log of observations and conditions noted during morning rounds, writing in medical records (although often illegibly), responding in a less than rude manner to verbal requests, discontinuing taunts of Keepers, holding a very occasional short meeting with an AHT, treating an animal previously given up as having "a very poor prognosis: renal failure" with an outside surgeon who saved the animal.

The Acting Director is to be commended for trying to institute some reforms which addressed many concerns of the Committee which in turn would appreciate his acknowledgement as to where the impetus for such improvements originated.

However, it must be sadly noted, that a Veterinarian who uses as an excuse for not following a normal professional standard of practice: "nobody ever told me to before" does not possess the personal initiative, commitment or professional ethic essential to run the medical program at a major zoo.



## WHY A SECOND VETERINARIAN SHOULD NOT BE HIRED FOR S.F. ZOO

The reasons for opposing the hiring of a second veterinarian at the S.F. Zoo are as follows:

The (publicly denied, privately acknowledged) reason that those within the Zoo--Rec. & Park Dept. want to hire a second vet is that they cannot get rid of the present one, despite--

- A Zoological Society vote of no confidence from its Board of Directors,
- A public denunciation of this vet by the Zool. Society president,
- Several private requests that he resign.
- A "golden parachute" offer via the Zool. Society that he resign,
- An 8-month on-going critical investigation of his veterinary practices which has re-opened long-standing community and keeper censure of his incompetencies and uncovered more reasons for it.

It must be concluded that Dr. Machado does not wish to leave his highly paid (\$68,000), civil service-protected position.

Advocates propose to hire a second vet "to upgrade the quality of animal care at the Zoo" presumably under the same conditions that the present one was hired. This could conceivably lead to two highly-paid, civil service-protected vets of which the City is unable to rid itself.

On the other hand, it could lead to a succession of vets in and out the door as they discovered either a) that they had been hired to "cover" for the existing vet or, b) that the bad publicity accruing to the ever-questionable veterinary practices under Dr. Machado was not a career-enhancing opportunity for them.

Further, it is highly unlikely that a reputable and qualified vet for exotic animals would come to work with Dr. Machado if they knew of his reputation or that the person would remain once they found out for themselves.

Further, it contradicts the Zoo's own commissioned peer review, released in July 1989 which stated that a second vet was not necessary for a collection the size of ours.

The 1990s will undoubtedly become the wild animal awareness decade and zoos will be particularly suited and properly designated as public stewards for exotic and endangered species. It will surely not be possible to build a "world-class zoo" befitting the City of San Francisco as long as such a key problem as superior veterinary care is not faced squarely and honestly and dealt with assertively by everyone involved with it.

A Position Paper from members of the Vet Care Subcommittee of the SF Zoo Advisory Committee. October 10, 1989.







## Members of the Veterinary Care Sub-Committee

- Jorge Garcia, DVM Vice-President of Operations and Director of Animal Science in a Bay Area biotech company; Graduate of UC Davis School of Veterinary Medicine, specializing in zoo and lab animal medicine; residency in Zoo Medicine with Murray Fowler, DVM; preceptorship at the S.F. Zoo: 1979; completed senior project at San Francisco State University on Zoo Medicine and Zoo Management, 1977.
- Sandra Keller, Executive Director and Co-Founder of Citizens For A Better Zoo, an animal advocacy organization involved in zoo activities since 1979. Work with animals includes primate volunteer at the S.F. Zoo, work with The Gorilla Foundation and guest lecturer at local schools on captive primates.
- Kimberly Karr-Warner, Former SF/SPCA Assistant Director of Animal Welfare and a State Humane Officer; Appointed to the ZAC as SPCA representative and served 2/89-7/89; Co-author of the SF/SPCA Report on Allegations of Elephant Abuse, issued 11/88; has investigated formal complaints lodged with SF/SPCA about Zoo animals.
- Joann McGarry, Executive Secretary to SF/SPCA Director; became SPCA representative to ZAC to fill vacancy, 8/89; concurrently has investigated formal complaints lodged with the SF/SPCA about specific animals at the S.F. Zoo.
- Susanne Barthell, MSW Practising social worker in the S. F. School District; appointed to Zoo Advisory Committee as a "Citizen with Knowledge of Zoo Matters;" five-year volunteer at S. F. Zoo.
- Phil Arnold, PhD Assistant General Manager for Administration of Recreation and Park Dept. of S. F.; Appointed Acting Director of the S.F. Zoo in Jan. 1989.
- Dolores Donovan, Attorney and Professor of Law at the University of San Francisco School of Law; appointed to ZAC as a "Citizen with Knowledge of Zoo Matters;" Member of S. F. Animal Welfare and Control Commission.
- William A. Newsom, Justice of the First Court of Appeals for the State of California; Co-founder of the Mountain Lion Preservation Coalition of California; Chairperson of the Zoo Advisory Committee.



February 23, 1990

SAN FRANCISCO  
ZOOLOGICAL  
GARDENS

William A. Newsom, Jr.  
Chair, Zoo Advisory Committee  
State of California Building  
350 McAllister Street  
San Francisco, CA 94102

A DIVISION OF THE  
SAN FRANCISCO  
RECREATION &  
PARK DEPARTMENT

Dear Justice Newsom:

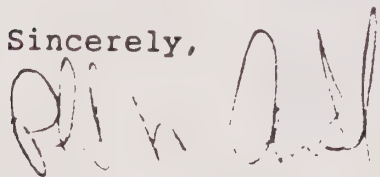
1 ZOO ROAD  
SAN FRANCISCO  
CALIFORNIA  
94132-1098

I am writing in regard to the report of the Veterinary Care Subcommittee of the Zoo Advisory Committee. This report shows me as a member of the Veterinary Care Subcommittee to June, 1989. After reviewing the latest version of the Veterinary Care Subcommittee report (dated 2/8/90), I continue to have strong differences with most of the conclusions and recommendations contained in that report. I also take strong exception to the methodology followed by that Subcommittee in reaching their conclusions and recommendations.

PHONE  
(415) 753-7088  
FAX  
(415) 681-2039

After reviewing a previous draft I requested that my name be taken off the membership of that subcommittee. My differences with the other members of the Veterinary Care Subcommittee are well known to the members of the Zoo Advisory Committee. However, in order that the Board of Supervisors, or any other members of the public who may read this report are not misled, I wish to disassociate myself with the methodology, conclusions and recommendations of the Veterinary Care Subcommittee of the Zoo Advisory Committee.

Sincerely,



Phil W. Arnold  
Acting Director, San Francisco Zoo  
01190



SAN FRANCISCO ZOOLOGICAL SOCIETY SUB-COMMITTEE REPORT

1/28/90

ZOO ADVISORY COMMITTEE

SAN FRANCISCO ZOOLOGICAL SOCIETY SUB-COMMITTEE MEMBERS

Sandra Keller, Convenor  
Margaret Burks  
Jorge Garcia, DVM  
David Howe  
Sophia Pappageorge





# ZOOLOGICAL SOCIETY SUBCOMMITTEE REPORT

1/29/90

## PURPOSE

The goal of the Zoological Society Subcommittee of the Zoo Advisory Committee was to gain an understanding of how the San Francisco Zoological Society ("SFZS") interacts with the municipal part of the Zoo, what the strengths and weaknesses of that interaction are, and how the SFZS itself functions. From this inquiry, the Subcommittee sought to make feasible recommendations to the Board of Supervisors about how the SFZS can increase its strengths and eliminate its weaknesses for the benefit of the Zoo and the animals.

## METHOD

The members of the Subcommittee conducted meetings with Margaret K. Burks, the Executive Director of the SFZS, Merrill Magowan, the Chairman of the Board of the SFZS, SFZS senior and middle management, docents, volunteers, Phil Arnold, Acting Zoo Director and other members of the Zoo staff. We reviewed Zoological Society protocols, practices, and its function with regard to the San Francisco Zoo.



## BACKGROUND

The SFZS was established in 1954 as a nonprofit membership organization dedicated to the support of the Zoo. Its role increased during the 1960's. In 1963 the SFZS took over the Zoo's rides (including the Zebra Train) and concessions at the request of the City; in 1968, the SFZS assumed stewardship of the Children's Zoo, which the SFZS has managed with skill and dedication. In the early 1970's, the SFZS's role increased into the areas of fundraising, marketing, membership and educational programs.

From a membership of approximately 5,000 at the beginning of the 1980's, the SFZS grew steadily over the past decade to a high of 29,500 members. Membership growth has slowed significantly for over a year. The adverse publicity the Zoo has received over the last year is perceived to be the reason for the slow growth rate. Its educational programs include Zoomobile, a summer Nature Trail, Wildlife Theater, volunteer and docent programs, and various other lectures and presentations for SFZS members and the public. These programs are well constructed and offer much to enhance the enjoyment of the Zoo.

In addition to the Children's Zoo, the SFZS has also become involved in other areas of animal care in recent years. It now manages the Animal Resource Center (ARC), the Avian Conservation Center and the Insect Zoo. These areas are managed with a considerable regard for the animals, have a high level of professionalism, and a dedicated, hardworking staff both paid and volunteer.



## FINDINGS

By and large, the Subcommittee finds that the SFZS plays a vital role for the Zoo by providing a source of funds and assuming responsibility for various visitor-related aspects of Zoo operations to which the City and County of San Francisco is either unwilling or unable to devote its resources. The SFZS has amply demonstrated a high standard of professionalism in most aspects of its operation. The job duties are well-defined, people are held accountable and there are well-written protocols covering the entire range of SFZS operations. Additionally, the SFZS makes significant contributions that often go unnoticed, such as providing free memberships and admission under special circumstances.

While the overall view of the SFZS is a deservedly positive one, a particular area of concern was brought repeatedly to the Subcommittee's attention. Along with the increase in the SFZS's involvement in the care of the animal collection has come a growing apprehension that the SFZS is exceeding its proper role. In the early 1980's, there was considerable discussion, much of it originating from the SFZS, that the SFZS take over the entire operation of the Zoo. This did not occur, in large part because the Recreation and Park Department had serious problems with the proposal. The Zoological Society and the Recreation and Park Department have repeatedly stated that the SFZS has no desire to take over control of the Zoo and that the Recreation and Park Department has no intention of handing the Zoo over to the SFZS. The fear, however, has persisted how that increased control over the Zoo remains part of the SFZS's agenda. This fear appears to emanate not from the SFZS Board of Directors involvement in Zoo issues, but from actions taken by the Executive Director of the SFZS regarding Zoo matters.

The case of the Primate Discovery Center (PDC) is illustrative of the problem. To its credit, the SFZS raised the approximately \$7 million to fund the project. In a municipal zoo, such as San Francisco's, a supporting Society would turn over these development funds to the animal care professionals (director, veterinarian, curators and keepers) who would then supervise the design and construction of the project. Whether by default, or through lack of guidance from the former Zoo Director or otherwise, such a transfer never occurred with the Primate Discovery Center. The SFZS remained in virtual control of all key aspects of the problem to the exclusion of the members of the animal care staff. It was not until 1989, when the City took over maintenance of the Primate Discovery Center (prior to that time the SFZS had maintained the PDC) that it at last began to function properly mechanically.

Having the most important capital improvement project in the Zoo's history mainly in the hands of the SFZS resulted in two major problems. The SFZS staff lacks knowledge and experience in the care of captive exotic animals. The SFZS's Board of Directors, many of whom are dedicated to helping improve the Zoo, has few members with animal expertise. (They could serve as an even more valuable resource if they had more members who specialized in animal disciplines.) As discussed at greater length in the Facilities Subcommittee Report at pages \_\_\_, the overall design flaws, abnormally high rate of animal deaths and ongoing keeper illnesses from zoonotic disease are ample testimony to this lack of expertise in the design and construction of the Primate Discovery Center.





Secondly, there is a high degree of resentment and mistrust among the keepers and other municipal Zoo employees about this loss of their proper role. Many keepers, particularly those who have worked in the Primate Discovery Center and fallen ill from the experience, are extremely angry about being deprived of any meaningful role in its creation yet being left to suffer the unhealthful consequences of working in it since completion. When the SFZS, through its Executive Director as the individual most involved in the project on a daily basis, failed to acknowledge the problem or offer any solutions, the anger of the keepers affected grew into a resentment that persists to this day. It was only this year, when the City took over maintenance of the Primate Discovery Center, that significant improvements in its operation came about.

Adding to this already tense atmosphere was the controversy surrounding the care of a baby gorilla in 1988 by SFZS personnel, to the exclusion of Zoo primate keepers. By that time, the primate keepers had been suffering from diseases contracted while working in the Primate Discovery Center for well over a year, only to have the Zoo deny that they had contracted anything from the Primate Discovery Center. Now, by prohibiting all keepers who worked in the Primate Discovery Center from caring for the baby gorilla, the Zoo was admitting for the first time that the problem did in fact exist. Stung by this cynicism, a keeper grievance was filed with their union. The outcome is still pending.

Put in this context, it became easier to understand how something as apparently minor as a memo to "All Zoo Employees" signed jointly by the former Zoo director and Ms. Burks was interpreted by some of the municipal employees as the SFZS exerting undue influence over a municipal facility.

The SFZS has been intensely involved in the development of a master plan for the Zoo, namely Zoo 2000. The SFZS in its attempt to raise money for this project (\$75,000,000.00) has repeatedly cited the Primate Discovery Center as the Zoo's flagship exhibit setting the stage for the forthcoming Zoo 2000. Considerable controversy exists over whether Zoo 2000 is in the best interests of the Zoo's animal collection. Much of the skepticism springs from the Primate Discovery Center's failure to provide for basic animal needs when it was repeatedly proclaimed by the SFZS as the state of the art primate exhibit. With the Primate Discovery Center standing as an example of \$7,000,000 misspent it's understandable that many would be reluctant to invest an additional \$75,000,000 with the same institution.

The committee also found that members of the SFZS staff, both paid and unpaid, were apprehensive about speaking openly on zoo issues because they felt that their jobs would be placed in jeopardy if they did so. The committee received a written statement from one employee, which stated that he had been informed by the Executive Director of the SFZS that he was not to speak to the committee without prior approval by herself or his supervisor. Volunteer privileges have been revoked in the past when persons spoke out about animal care issues. The current Executive Director, whether through lack of guidance by the SFZS Board of Directors, by design or by default has established a pattern of covering up problems rather than open disclosure, and/or ignoring problems rather than resolving them.



The SFZS public relations department, admittedly often left in a difficult position by the repeated mismanagement of the Zoo by its current management staff, has seldom proven able to minimize or diffuse the negative press or develop persuasive positive press. If the Zoo is to succeed with raising funds for zoo improvements than it is essential that public enthusiasm in the Zoo be renewed. To do this requires a skilled and resourceful public relations officer. The committee feels that this position is a key factor in the Zoo's ability to move forward. We also feel that it would be in the best interests of the Zoo if this position were under the guidance of and accountable to the Zoo Director.

As these and other concerns were brought to the Subcommittee's attention during the course of its investigation, they were discussed with the Executive Director. We had been told that the SFZS's Board of Directors had not been kept apprised by Ms. Burks of the full scope of the developing situation. Not only did Ms. Burks confirm that she had not made a full disclosure to the Board, she somewhat surprisingly offered that, if she had it to do all over again, she would do it the same way. Additionally, she admitted freely and repeatedly that she had been completely unaware of the extent of the problems for most of the past decade. When the Subcommittee discussed the SFZS's current problems with her, she professed disbelief that they exist.

While it is perhaps beyond the jurisdiction of this Committee to recommend the removal of its current Executive Director, we are at a loss to imagine how the SFZS can move expeditiously forward to meet the daunting challenges facing the Zoo in the new decade with such a leader.



## RECOMMENDATIONS

1. The San Francisco Zoological Society role be redefined to limit its activities to fundraising, education (including both public and zoo staff programs), membership, and visitor services.

2. The SFZS expand its Board of Directors to include more scientists specializing in animal disciplines.

3. Public relations to be a function of the City not the SFZS. Additionally the SFZS public relations department be encouraged to work more closely with the Public Information officer of the Recreation and Park Department.

4. The City be encouraged to learn and incorporate into the municipal zoo the many well developed and implemented standards the SFZS has in place, e.g. well defined job description, accountability, regular meetings, goals, time lines etc.

6. The SFZS be encouraged to take the appropriate steps to resolve the current problems surrounding its top management.

7. In order to unify animal care issues, clarify the chain of command, and establish consistency with other municipal run zoos the City should take the necessary steps to re-assume management of the the Childrens Zoo and the management of the Insect Zoo. The City is urged to maintain the high quality of animal care exhibited by the SFZS during its management of these areas.





SAN FRANCISCO ZOOLOGICAL SOCIETY SUBCOMMITTEE REPORT

2/15/90

ZOO ADVISORY COMMITTEE

SAN FRANCISCO ZOOLOGICAL SOCIETY SUB-COMMITTEE MEMBERS

Sandra Keller, Convenor

John Alcaraz

Margaret Burks

Jorge Garcia, DVM

David Howe

Sophie Papageorge



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## FINDINGS

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Having the most important capital improvement project in the Zoo's history mainly in the hands of the SFZS resulted in two major problems. The SFZS staff lacks knowledge and experience in the care of captive exotic animals. The SFZS's Board of Directors, many of whom are dedicated to helping improve the Zoo, has few members with animal expertise. (They could serve as an even more valuable resource if they recruited more members who specialized in animal disciplines.) As discussed at greater length in the Facilities Subcommittee Report at pages \_\_-\_\_, the overall design flaws, abnormally high rate of animal deaths and ongoing keeper illnesses from zoonotic disease are ample testimony to this lack of expertise in the design and construction of the Primate Discovery Center.

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Adding to this already tense atmosphere was the controversy surrounding the care of a baby gorilla (acquired from the Columbus Zoo) in 1988 by SFZS personnel, to the exclusion of the Zoo's primate keepers (excluded by management because of the zoonotic disease problems with primates in the main zoo). At that time, primate keepers had been suffering from diseases contracted while working in the Primate Discovery Center for well over a year. Diseases which, prior to the arrival of the baby gorilla, the Zoo had consistently denied existed. Now, by prohibiting all keepers who worked in the Primate Discovery Center from caring for the baby gorilla, the Zoo admitted for the first time that a problem did in fact exist. This prohibition of primate keepers from the care of the gorilla resulted in a grievance being filed whose outcome is still pending.

Putting all of these facts together, it becomes easy to understand how something as apparently minor as a memo to "All Zoo Employees" signed jointly by the former Zoo director and Ms. Burks was interpreted by some of the municipal employees as the SFZS exerting undue influence over a municipal facility.

Though a proven fund raiser the SFZS has also come under some scrutiny regarding how the money it raises is spent. Zoo employees, paid and unpaid, have stated concerns that little of the money raised for the animals actually benefits them in any direct way, i.e. exhibit enhancements, while much of the money appears to go to enlarging the Zoological Society office staff. The Zoological Society acquired and occupies the largest offices on zoo grounds, replete with two restrooms. The zoo director and his staff have smaller offices, and no restroom. The SFZS has been intensely involved in the development of a master plan for the Zoo, namely Zoo 2000. Considerable controversy exists over whether Zoo 2000 is in the best interests of the Zoo's animal collection. The SFZS in its attempt to raise money for this project (\$75,000,000.00) has repeatedly cited the Primate Discovery Center as the Zoo's flagship exhibit





setting the stage for the forthcoming Zoo 2000. Much of the skepticism regarding Zoo 2000 springs from the Primate Discovery Center's failure to provide for basic animal needs when it was repeatedly proclaimed by the SFZS as the state of the art primate exhibit. With the Primate Discovery Center standing as an example of \$7,000,000 misspent it's understandable that many would be reluctant to invest an additional \$75,000,000 with the same institution. Zoo 2000 was considered in depth by the entire Zoo Advisory Committee which in conclusion recommended Zoo 2000 be deferred and revised in favor of more desirable alternatives.

The committee also found that members of the SFZS staff, again both paid and unpaid, were apprehensive about speaking openly on zoo issues because they felt that their jobs would be placed in jeopardy if they did so. The committee received a written statement from one employee, which stated that he had been informed by the Executive Director of the SFZS that he was not to speak to the committee without prior approval by herself or his supervisor. Volunteer privileges have been revoked in the past when persons spoke out about animal care issues. The current Executive Director, by design or by default, has established a pattern of covering up problems rather than open disclosure, and/or ignoring problems rather than resolving them.

The SFZS public relations department, admittedly often left in a difficult position by the repeated mismanagement of the Zoo by its current management staff, has seldom proven able to minimize or diffuse the negative press or develop persuasive positive press. If the Zoo is to succeed with raising funds for zoo improvements then it is essential that public enthusiasm in the Zoo be renewed. To do this requires a skilled and resourceful public relations officer. The committee feels that this position is a key factor in the Zoo's ability to move forward. We also feel that it would be in the best interest of the Zoo if this position were under the guidance of and accountable directly to the Zoo Director.

As these and other concerns were brought to the Subcommittee's attention during the course of its investigation, they were discussed with the Executive Director. We had been told that the SFZS's Board of Directors had not been kept apprised by Ms. Burks of the full scope of the developing situation. Not only did Ms. Burks confirm that she had not made a full disclosure to the Board, she somewhat surprisingly offered that, if she had it to do all over again, she would do it the same way. Additionally, she admitted freely and repeatedly that she had been completely unaware of the extent of the problems for most of the past decade. When the Subcommittee discussed the SFZS's current problems with her, she professed disbelief that they exist.

While it is perhaps beyond the jurisdiction of this Committee to recommend the removal of its current Executive Director, we are at a loss to imagine how the SFZS can move expeditiously forward to meet the daunting challenges facing the Zoo in the new decade under such leadership.





## RECOMMENDATIONS

1. The San Francisco Zoological Society role be redefined to limit its activities to fundraising, education (including both public and zoo staff programs), membership, and visitor services.

2. The SFZS expand its Board of Directors to include more scientists specializing in animal disciplines.

3. Public relations to be a function of the City not the SFZS. Additionally the SFZS public relations department be encouraged to work more closely with the Public Information officer of the Recreation and Park Department.

4. The City be encouraged to learn and incorporate into the municipal zoo the many well developed and implemented standards the SFZS has in place, e.g. well defined job description, accountability, regular meetings, goals, time lines etc.

6. The SFZS be encouraged to take the appropriate steps to resolve the current problems surrounding its top management.

7. In order to unify animal care issues, clarify the chain of command, and establish consistency with other municipal run zoos the City should take the necessary steps to re-assume management of the the Childrens Zoo and the management of the Insect Zoo. The City is urged to maintain the high quality of animal care exhibited by the SFZS during its management of these areas.



San Francisco Zoo Advisory Comm  
Master Summary of Zoo Survey Data - 1989

Responding Zoos	KEEPERS										MEDICAL										VOLLUNTEERS									
	Sr. :	Civil	Tr. #	Vet :	Rounds	Animal	Record	EDUCATION	Res																					
	Mgmt :	#	Serv	Union	Prog	Vet	Tech	Daily	Wkly	Other	Med	ark	Trans	Keeping	Budget	Benefit	Dir	Dir	#	Members										
Audubon-New Orleans	7	50			X	1.1	2	C/K			X	C	R	30,000	all	X	X	150												
Brookfield-Chicago	8	93		X	N/A	2	1.2	C/K		X	X	C	R	300,000	S.S.	X	?	500+	X											
Cincinnati	14	52		X		1.1	1	C/K				D/C	C/ES	30,000	all	X		1000												
Cleveland	7	33		X		1.2	1	V/C				C	R	30,000+	all	X		145+												
Columbus	10	38		X		2		V				C/ES	R	N/A	N/A			N/A												
Dallas	15	70	X			2	4	V/C			X	C	C/ES	36,000	all		X	300	X											
Denver	5	42	X			2	1	V/C				C	R	Varies	all		X	300	X											
Fresno	5	16	X			1.1		V				A/D	ES/R	3,000+	all			175+	X											
Houston	8	59	X			2	2	V/K				D	R/VS	3,292+	all			230												
Jacksonville	11	17				1	1	V			X	C	C	No	all			71												
Lincoln Park-Chicago	11	69	X	X		2	1	V				AD	C	4,000	all	X	X	400	X											
Los Angeles	9	75	X	X	X	2	4	V				C	C/R	No	all	X	X	735	X											
Louisville	8	29		X		1	1	V			X	C	C/VS	8,000	all		X	400+												
Minnesota	14	40	X	X		2	2.1	K			X	C	R	24,000	all			N/A												
National-Wash D.C.	14	83	X	X		4	1	V			X	D/C	R				X	639												
New York-Bronx	:No Survey Returned - Comments are Included																													
Philadelphia	11	46		X		2	1	K				C	ACM	10,000	all		X	550												
Phoenix	18	N/A				1	1	V				C	C/ES/V	15,000	all			340+												
Pittsburgh	4	20	X	X		1	1.1	V/C				C	C/K	100,000	all			100	X											
Point Defiance-Tacoma	2	25		X		0.1		C	V			C	Dir Op	500				75												
Sacramento	2	12	X	X		U.C.Davis	D/C					D/C	C	N/A	all		X	422	X											
San Antonio	11	82		X		1	1.1	V				C	C	N/A	N/A			136	X											
San Diego	5	110		X		4	3	V				C	R	88,000	S.S.	X			X											
San Francisco	9	38	X	X		1	3.1	K/V	D/C			C	C	23,000	all		X	650	X											
St Louis	12	70				3	1.1	V				AD/C	C	Open	S.S.	X		600												
Washington Park-Portland	10	30		X		1.1	1	K/C				C	R	54,178	all	X	X	350												
Woodland Park-Seattle	8	47				2	2	V				C	R	16,000	all	X	X	700												

1.1 = 1 Fulltime + 1 Part time

D-Director V-Vet C-Curator K-Keeper R-Registrar S.S.-Sr. Staff VS-Vet Staff AD-Asst. Dir  
ACM-Animal Collection Manager



Responding Zoos	Free							MAMMALS		BIRDS		REPTILES		INVERTEBRATES		LAYOUT			Capital	Oper.*		
	:Pub	:Priv	:Adm	:Acreage	:Rank	:Attend	:Rank	:Members	:Species	:Specimens	:Species	:Specimens	:Species	:Specimens	:Species	:Specimens	:Tax	:Geo	:Clim	:Other	:Cost	:Project
Audubon-New Orleans	: X	:	:	58	16	975,000	15	37,000	86	349	139	351	104	361	19	67	X	X	:	X	: \$6.5 Mil	: \$7 Mil
Brookfield-Chicago	:	: X	:	200	3	1,950,000	6	26,000	153	1340	125	515	119	237	8	57	X	:	:	X	: \$3.4 Mil	: \$25 Mil
Cincinnati	:	: X	:	64	14	1,287,037	10	:	141	734	194	774	122	359	122	405,000	:	:	:	X	: \$1.5 Mil	: \$10.4 Mil
Cleveland	: X	:	:	150	5	823,879	20	11,000	97	510	233	985	30	82	42	1147	X	X	X	:	: \$5 Mil	:
Columbus	:	: X	:	142	6	950,000	17	42,000	72	350	91	228	213	963	40	1000	:	X	:	X	: 900,000	: N/A
Dallas	: X	:	:	105	9	557,482	22	10,000	65	308	175	608	145	563	:	:	:	:	:	X	: \$25 Mil	: \$6 Mil
Denver	: X	:	:	73.5	13	1,148,478	11	17,000	96	382	167	669	15	37	6	48	X	X	:	:	: \$4.5 Mil	: \$4.6 Mil
Fresno	: X	:	:	20	21	455,070	23	3,400	51	134	68	172	40	136	:	:	X	X	:	:	: \$200,000	: N/A
Houston	: X	:	: X	50	17	1,771,029	7	N/A	138	433	249	835	172	589	85	200	X	:	:	:	:	: N/A
Jacksonville	:	: X	:	61	15	330,000	27	2,000	43	145	70	264	38	124	3	27	X	X	:	:	:	: \$2.3 Mil
Lincoln Park-Chicago	: X	:	: X	35	19	4,500,000	1	17,000	116	968	119	323	134	469	4	16	X	:	:	X	: \$3 Mil	: \$8 Mil
Los Angeles	: X	:	:	113	8	1,650,000	8	50,000	139	749	185	722	140	506	:	:	:	X	:	:	: \$8.2 Mil	: 6,129,385
Louisville	:	: X	:	75	12	400,000	26	10,000	60	220	85	250	33	97	7	40	:	X	:	:	: \$2.5 Mil	:
Minnesota	: X	:	:	485	1	963,462	16	N/A	70	428	110	452	33	46	30	180	:	X	:	:	:	: \$10 Mil
National-Wash D.C.	: X	:	: X	163	4	3,000,000	3	5,500	153	1345	186	990	71	5330	80	1039	X	X	:	:	: \$3.5 Mil	: \$14 Mil
New York-Bronx	:	: X	:	265	2	2,500,000	4	33,610	139	2056	324	1268	139	738	:	:	:	N/A	:	:	:	: N/A
Philadelphia	:	: X	:	42	18	1,300,000	9	38,000	114	467	169	541	149	471	2	5	X	X	:	:	: \$6.1 Mil	: \$12.25 Mi
Phoenix	:	: X	:	125	7	912,500	19	35,000	72	438	132	501	62	216	:	:	:	:	X	:	: \$1.8 Mil	: \$7.4 Mil
Pittsburgh	: X	:	:	75	12	450,000	24	8,000	40	77	34	99	81	295	50	350	:	X	:	X	: \$20 Mil	: \$2.1 Mil
Point Defiance-Tacoma	: X	:	:	27	20	434,494	25	3,900	68	455	47	129	14	23	67	3195	:	X	:	:	: \$3.2 Mil	:
Sacramento	: X	:	:	14	22	581,000	21	6,500	43	152	43	204	53	121	3	13	X	:	:	X	: \$800,000	: \$1 Mil
San Antonio	:	: X	:	50	17	1,000,000	13	13,000	136	752	226	1127	122	416	28	264	:	X	:	:	: \$750,000	: \$6 Mil
San Diego	:	: X	:	125	7	3,800,000	2	167,500	227	1269	485	1992	133	627	:	:	:	:	X	:	: \$14 Mil	: \$62.2 Mil
San Francisco	: X	:	:	75	12	1,142,386	12	29,000	103	438	150	405	23	38	67	5972	X	:	:	:	: \$7 Mil	: \$10 Mil
St Louis	: X	:	: X	83	11	2,287,357	5	13,000	73	361	118	624	271	620	36	232	X	:	:	:	: N/A	: \$10.1 Mil
Washington Park-Port.	: X	:	:	64	14	977,959	14	40,000	47	221	46	231	15	39	20	:	X	X	X	:	: \$8 Mil	: 8,203,547
Woodland Park-Seattle	: X	:	:	90	10	941,365	18	15,000	85	366	114	430	46	178	2	1200	:	:	X	:	: \$295,000	: 5,302,911
Totals	17	10	4	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
High	:	:	:	485	:	4,500,000	:	167,500	227	2056	485	1992	271	963	122	405,000	:	:	:	:	:	:
Low	:	:	:	14	:	330,000	:	2,000	40	77	34	99	14	23	0	0	:	:	:	:	:	:
Average	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
Median	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:

Comments: Cleveland-Zoo being reorganized by new administration. Heavy tax support unique to Cleveland. Tax levies for Park & Zoo have always passed.

Fresno-We are currently conducting a study with respect to transferring the management of the zoo over to the zoo society.

Louisville-We would welcome any members of the Advisory Committee to visit our Zoo, or to call us if we can furnish any other information.

Phoenix-Just as a very general comment- I have never known, in 30 years of directing zoos, a successful zoo that was not mostly run by a zoological society. Political sub-divisions and zoos do not mix well.

Washington Park-In theory, all one million annual general visitors are served by on-grounds programs. Estimates for specific programs are: Birds of Prey and Reptile shows 253,800; Insect Zoo 400,000, Fee-based classes and camps 1,906; Outreach assemblies to schools 17,800; School Zoomobile 2,161; Special Education Zoomobile 608.

Woodland Park-Success of Woodland Park Zoo's current 10-year redevelopment program depends upon cooperation between public and private sectors, and regional government cooperation between City of Seattle and King County (City operates zoo; county is providing \$32 million in capital redevelopment funds). Zoo Society has grown dramatically in past 5 years to private support organization of significant scale.

Jacksonville-If you are facing change and have not already done so, we would strongly suggest that you develop a long-range strategic plan to define what you have been, where you are now and where you want to go. We enclose a copy of our Diamond Edge plan adopted in 1985 (after a year of preparation). It is updated annually, so the enclosed is out of date. This is our "magazine" version and does not list the strategies, objectives or action plans, but it will serve as an example of a long-range strategic plan for a zoological institution.

New York-The survey's questions are, in many instances, too broad to be economically answerable. Many are irrelevant. They suggest that the Advisory Committee has been given too broad a charge. They ignore the need for the majority of such queries to be explored at greater length and with professional help rather than by questionnaire. I hope you will not be disconcerted by these very direct observations but it is fair to say that the management and construction of a modern zoological garden is far more complex, with many more opportunities for failure or tragedy than the construction and management of a space station or the most intricate brain surgery. Modern zoos deal with the management and preservation of the diversity of life and their operation has become frighteningly complicated and specific. Unfortunately, the questionnaire often addresses topics that are zoo or site specific and irrelevant to S.F. without lengthy professional interpretation. Some might best be addressed to AAZPA or AAZV.









FIRST DISTRICT  
DIVISION ONE

3/12/90 *nt*



WILLIAM A. NEWSOM  
JUSTICE  
PERSONAL

STATE OF CALIFORNIA

## Court of Appeal

STATE BUILDING - CIVIC CENTER  
SAN FRANCISCO

March 2, 1990

INSTITUTE OF GOVERNMENTAL  
STUDIES LIBRARY

NOV 20 1990

UNIVERSITY OF CALIFORNIA

San Francisco County  
Board of Supervisors  
City Hall  
Polk & McAllister Streets  
San Francisco, CA 94102

Dear Members of the Board:

The Zoo Advisory Committee Report which Ms. Burks kindly forwarded to you last week contains several spelling and typographical errors.

Please, therefore, accept the enclosed, corrected copy in place of the earlier submission. No changes of substance have been made.

Respectfully,

A handwritten signature in cursive script, reading "William A. Newsom".

William A. Newsom

WAN:lc  
Enc.



EXECUTIVE SUMMARY OF THE FINAL REPORT  
OF THE SAN FRANCISCO ZOO ADVISORY COMMITTEE

NOTE: These recommendations were approved at the January 30, 1990 meeting of the Zoo Advisory Committee.

Present:

Honorable William Newsom, Chair

Keith Eickman, Vice Chair

John J. Alcaraz

Phil Arnold

Susanne Barthell

Dolores A. Donovan

Dr. Jorge Garcia

Richard Hills

David Howe

Sandra Keller

Joanne McGarry

Sophie Papageorge

Nancy Ratzesberger for

Margaret Burks

Absent:

Noel Messenger

The following are recommendations and record of vote. The justification for these recommendations is briefly described in the reasons following each recommendation and detailed in the following subcommittee documents.

Animal Care Management: Sophie Papageorge, Convener

Employee Relations: Sophie Papageorge, Convener

Facilities: Richard Hills, Convener

Facilities: Dissenting report--subcommittee members  
(Margaret Burks, Keith Eickman, Noel Messenger)

Finance Subcommittee: Dolores Donovan, Convener

Government Structure & Administration: Joanne McGarry, Convener

Veterinary Care: Dr. Jorge Garcia, Convener

Zoological Society & Public Relations: Sandra Keller, Convener

RECOMMENDATION 1: The current level of veterinary care provided at the Zoo is entirely inadequate and all necessary steps should be immediately taken to improve it, including replacement of the veterinarian.

REASON: The present veterinarian provides questionable care leading to unnecessary mortality and illnesses among the animal collection. He is also responsible for widespread disaffection and dissension harmful to employee morale.

MSA (Hills/Papageorge)

Motion Carried

In favor: Alcaraz, Barthell, Garcia, Hills, Howe, Keller, Papageorge

Opposed: Arnold, Eickman, Newsom

Abstain: Donovan, McGarry, Ratzesberger





RECOMMENDATION 2: Funding for a Part-time veterinarian be recommended to cover days off and holidays when the full-time veterinarian is not on site.

REASON: The hiring of a part-time veterinarian is viewed by the committee as a necessity.

MSA (Arnold/Keller)  
Motion carried unanimously

RECOMMENDATION 3: A full-time Industrial Hygenist should be added to the staff at the zoo.

REASON: Zoonotic disease is a serious problem, and one which has been recurrent at the Zoo, posing health hazards to the general public, to Zoo employees and to the animals. For a detailed report, please refer to the CAL-OSHA report which is incorporated in this Summary by reference.

MSA (Barthell/Arnold)  
Motion carried unanimously

RECOMMENDATION 4: The present curatorial services are inadequate and should be improved. In future hiring, the Zoo should insist that prospective curators possess the education and experience which the welfare of the animal collection demands.

MSA (Hills/Papageorge)  
Motion Carried

In favor: Alcaraz, Barthell, Garcia, Hills, Keller, Newsom, Papageorge, Ratzesberger  
Opposed: Arnold, Eickman  
Abstain: Donovan, Howe, McGarry

RECOMMENDATION 5: Only persons versed in the care, handling and training of this species should be allowed to handle the Asian Elephants.

REASON: The management and the treatment of these important mammals have been causes of serious and continuing concern as has the safety of their handlers.

MSA (Donovan/Papageorge)  
Motion carried

In favor: Alcaraz, Barthell, Donovan, Garcia, Hills, Howe, Keller, McGarry, Newsom, Papageorge, Ratzesberger  
Opposed: Arnold, Eickman



RECOMMENDATION 6: It is essential that all scientific positions, including but not limited to curatorial staff and veterinarian, should be exempted from the requirements of the Civil Service system, as is the Director.

REASON: The general benefits of the Civil Service system are in the Committee's view outweighed by the imperative of scientific excellence if the Zoo is to achieve and maintain the world-class status San Francisco deserves. Replacement of employees in scientific positions, when necessitated by the welfare of the animals, should be unfettered by the otherwise benign protections of the Civil Service system.

MSA (Donovan/Papageorge)

Motion carried

In favor: Alcaraz, Barthell, Donovan, Garcia, Hills, Keller, Newsom, Papageorge, Ratzesberger

Opposed: Arnold, Eickman

Abstain: Howe, McGarry

RECOMMENDATION 7: The four Senior Keeper positions in place at the Zoo should be defunded. Additional keepers are needed.

REASON: The Committee views these positions as superfluous, and as an obstacle to useful communication between Keepers and Management. All tasks presently delegated to Senior Keepers can be better performed by the Head Keeper, Assistant Head Keeper and Keepers themselves.

MSA (Papageorge/Garcia)

Motion carried

In favor: Alcaraz, Barthell, Donovan, Garcia, Hills, Keller, Newsom, Papageorge

Opposed: Arnold, Eickman, Howe, Ratzesberger

Abstain: McGarry

RECOMMENDATION 8: Repairs, modernization, modifications and improvements are urgently needed in most of the existing animals facilities.

REASON: Even the most cursory inspection reveals the inadequacy of present facilities. Of particular concern are the following: Monkey Island, which is dilapidated and virtually unuseable, in addition to being by common agreement among the Zoo staff outdated. Elephant enclosures are inadequate both



in terms of public viewing opportunity, animal welfare and keeper safety. The Primate Discovery Center requires modifications in order to improve public viewing and the welfare of the primates housed there, the mandrill enclosure being particularly defective. Small cat cages are antiquated and must be replaced, and modifications are direly needed with respect to orangutans, chimpanzees, musk ox and tapirs.

MSA (Arnold/Keller)  
Motion carried unanimously

RECOMMENDATION 9: The "Zoo 2000" plan of the Zoological Society for renovation of the Zoo should be deferred and revised in favor of more desirable alternatives.

REASON: While the Committee is mindful of the important role the Society plays in the Zoo's future, in its view the Zoo 2000 plan is rather unrealistic, especially in the light of current space limitations, the City's climate, and other pressing realities centering on the needs of the present animal collection.

MSA (Keller/Garcia)  
Motion carried

In favor: Alcaraz, Barthell, Donovan, Garcia, Hills, Howe, Keller, McGarry, Newsom, Papageorge  
Opposed: Arnold, Ratzesberger  
Abstain: Eickman

RECOMMENDATION 10: All phases of construction of the Sewage Treatment Plant should -- in conjunction with the Department of Public Works -- be closely monitored to insure that safeguards designed to mitigate the potentially harmful effects of the Plant on animals and humans are actually implemented.

REASON: While it is probably too late to prevent construction of this poorly situated facility, there is ongoing concern that its construction and eventual operation will create noise, vibrations and noxious odors that may negatively affect the health of the animals and experience of Zoo visitors.

MSA (Arnold/Hills)  
Motion carried unanimously





RECOMMENDATION 11: New sources of funding must be found for the Zoo. These should include a general obligation bond for improvements to the Zoo's infrastructure; use of some proceeds of the hotel tax funds, justified because of the Zoo's current and potential usefulness as a tourist attraction; and appointment of a Task Force to explore innovative regional and statewide funding approaches which have been successful at other zoos.

REASON: The deterioration of the Zoo's physical plant has proceeded steadily and unabated. The problem, which has become exponential, can no longer be ignored. The costs of renovation are such as to require the major funding sources we have recommended.

MSA (Arnold/Newsom)  
Motion carried unanimoously

RECOMMENDATION 12: A continuing education fund should be created that will enable Keepers to do research, contribute to the professional Zoo literature, and participate in seminars and conferences.

REASON: Keepers are professionals, deeply interested in their animal charges, and not merely employees performing perfunctory tasks. Unfortunately, this perception is not widely understood by the public. In the view of the Committee, creation of the subject fund would contribute importantly to morale, and in turn benefit the animal collection, all at a modest public expense.

MSA (Keller/Barthell)  
Motion carried unanimously

RECOMMENDATION 13: The role of the Zoological Society should be limited to fundraising, visitor services, education, research assistance.

REASON: Particularly among Zoo employees, there is a perception that the Society exerts an inordinate influence over the internal workings of the Zoo, and



has become overly involved with the care and management of the animal collection. As a new Director assumes office, the time for a clarification of the Society's proper role in Zoo affairs is propitious.

MSA (McGarry/Newsom)

Motion carried

In favor: Alcaraz, Arnold, Barthell, Donovan, Eickman, Garcia, Hills, Howe, Keller, McGarry, Newsom, Papageorge

Opposed: Ratzesberger

RECOMMENDATION 14: Eliminate Joint Zoo Committee.

REASON: The Joint Zoo Committee, comprised of three Recreation & Park Commission members and three members of the Zoological Society, meets monthly to consider matters of Zoo policy.

In the Committee's view, the functions of the Joint Zoo Committee are redundant and duplicative of those of the Recreation & Park Commission and the Board of Directors of the Zoological Society. Moreover, the manner in which the Joint Zoo Committee functions creates an appearance of a private body exercising undue influence in the conduct of Zoo affairs, which are properly subject to public control.

MSA (Keller/Garcia)

Motion carried

In favor: Alcaraz, Barthell, Donovan, Garcia, Hills, Howe, Keller, McGarry, Newsom, Papageorge

Opposed: Arnold, Eickman, Ratzesberger

RECOMMENDATION 15: The ZAC recommends that there be established an independent oversight group similar to the Office of Citizen Complaints, or other watchdog agencies required to be established by the Federal government by institutions receiving federal funds.

MSA (Newsom/Keller)

Motion Carried

In favor: Alcaraz, Barthell, Donovan, Garcia, Hills, Howe, Keller, McGarry, Newsom, Papageorge

Opposed: Arnold, Eickman, Ratzesberger



has been very largely with the view of  
expansion of the animal kingdom. As a new  
species of animal which, the line for a  
classification of the animal kingdom is in  
accordance with the following:

1. (Mammalia, Reptilia, Aves, Fishes, Insects, etc.)  
2. (Mammalia, Reptilia, Aves, Fishes, Insects, etc.)  
3. (Mammalia, Reptilia, Aves, Fishes, Insects, etc.)  
4. (Mammalia, Reptilia, Aves, Fishes, Insects, etc.)  
5. (Mammalia, Reptilia, Aves, Fishes, Insects, etc.)  
6. (Mammalia, Reptilia, Aves, Fishes, Insects, etc.)  
7. (Mammalia, Reptilia, Aves, Fishes, Insects, etc.)  
8. (Mammalia, Reptilia, Aves, Fishes, Insects, etc.)  
9. (Mammalia, Reptilia, Aves, Fishes, Insects, etc.)  
10. (Mammalia, Reptilia, Aves, Fishes, Insects, etc.)

RECOMMENDATION: The following is the proposed

classification of the animal kingdom, based on the  
principles of the animal kingdom, and is in  
accordance with the following:

1. (Mammalia, Reptilia, Aves, Fishes, Insects, etc.)  
2. (Mammalia, Reptilia, Aves, Fishes, Insects, etc.)  
3. (Mammalia, Reptilia, Aves, Fishes, Insects, etc.)  
4. (Mammalia, Reptilia, Aves, Fishes, Insects, etc.)  
5. (Mammalia, Reptilia, Aves, Fishes, Insects, etc.)  
6. (Mammalia, Reptilia, Aves, Fishes, Insects, etc.)  
7. (Mammalia, Reptilia, Aves, Fishes, Insects, etc.)  
8. (Mammalia, Reptilia, Aves, Fishes, Insects, etc.)  
9. (Mammalia, Reptilia, Aves, Fishes, Insects, etc.)  
10. (Mammalia, Reptilia, Aves, Fishes, Insects, etc.)

1. (Mammalia, Reptilia, Aves, Fishes, Insects, etc.)  
2. (Mammalia, Reptilia, Aves, Fishes, Insects, etc.)  
3. (Mammalia, Reptilia, Aves, Fishes, Insects, etc.)  
4. (Mammalia, Reptilia, Aves, Fishes, Insects, etc.)  
5. (Mammalia, Reptilia, Aves, Fishes, Insects, etc.)  
6. (Mammalia, Reptilia, Aves, Fishes, Insects, etc.)  
7. (Mammalia, Reptilia, Aves, Fishes, Insects, etc.)  
8. (Mammalia, Reptilia, Aves, Fishes, Insects, etc.)  
9. (Mammalia, Reptilia, Aves, Fishes, Insects, etc.)  
10. (Mammalia, Reptilia, Aves, Fishes, Insects, etc.)

RECOMMENDATION: The following is the proposed  
classification of the animal kingdom, based on the  
principles of the animal kingdom, and is in  
accordance with the following:

1. (Mammalia, Reptilia, Aves, Fishes, Insects, etc.)  
2. (Mammalia, Reptilia, Aves, Fishes, Insects, etc.)  
3. (Mammalia, Reptilia, Aves, Fishes, Insects, etc.)  
4. (Mammalia, Reptilia, Aves, Fishes, Insects, etc.)  
5. (Mammalia, Reptilia, Aves, Fishes, Insects, etc.)  
6. (Mammalia, Reptilia, Aves, Fishes, Insects, etc.)  
7. (Mammalia, Reptilia, Aves, Fishes, Insects, etc.)  
8. (Mammalia, Reptilia, Aves, Fishes, Insects, etc.)  
9. (Mammalia, Reptilia, Aves, Fishes, Insects, etc.)  
10. (Mammalia, Reptilia, Aves, Fishes, Insects, etc.)

RECOMMENDATION 16: The new permanent Zoo Committee referred to in Recommendation 15 should be composed of citizens with expertise, knowledge and interest in zoo matters, exclusive of the Recreation & Parks Commissioners and inclusive of zoo staff to make policy decisions on animal care matters at the San Francisco Zoo as well as recommendations on other zoo matters to the Recreation & Parks Commission.

MSA (Barthell/Papageorge)

Motion carried

In favor: Alcaraz, Barthell, Garcia, Howe, Keller, McGarry, Papageorge

Opposed: Arnold, Donovan, Eickman, Hills, Newsom, Ratzesberger

RECOMMENDATION 17: The San Francisco Zoo remain a municipal function under the Recreation and Parks Department and be given the necessary administrative and financial support to serve the needs of the animals in its care.

MSA (Arnold/Eickman)

Motion carried

In favor: Arnold, Donovan, Eickman, Hills, Howe, McGarry, Newsom, Ratzesberger

Opposed: Alcaraz, Barthell, Garcia, Keller, Papageorge

